THE LANCET

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

Telegrams—LANCET, WESTRAND LONDON *Telephone*—GERRARD 4314 & 4315. *Offices*—423, Strand, London, W.C.

No. IV. OF VOL. II., 1927. **No. 5421. Vol CCXIII.** LONDON, SATURDAY, JULY 23, 1927 Founded 1823. Registered as a Newspaper. Published Weekly. **Pp. 112—Price 1s.** Annual Subscription. Inland £2 2s. Abroad £2 10s.

OXFORD MEDICAL PUBLICATIONS

SEE PAGE 4.

BY A. G. TIMBRELL FISHER, *M.C.*, M.B., F.R.C.S.

INTERNAL DERANGEMENTS OF THE KNEE-JOINT.
Their Pathology and Treatment by Modern Methods.
With 79 Illustrations on 40 Plates. Demy 8vo. 12/6 net, postage 6d.
ARCHIVES OF SURGERY:—"Throughout the book there is evidence of exhaustive investigation by the judicial mind of a trained surgeon of wide experience. We cannot speak too highly of this valuable contribution to medical literature."

MANIPULATIVE SURGERY: Principles and Practice.
With 62 Illustrations. Demy 8vo. 7/6 net, postage 5d.
BRITISH JOURNAL OF SURGERY:—"Mr. Fisher does well to expose the principles of manipulation to light and reason."
London: H. K. Lewis & Co. Ltd., 136 Gower Street, W.C.1.

DISEASES OF THE RECTUM AND COLON
AND THEIR SURGICAL TREATMENT.
BY
P. LOCKHART-MUMMERY,
F.R.C.S.ENG., M.A., M.B., B.C.CANTAB.,
Senior Surgeon to St. Mark's Hospital.
Over Two Hundred Plates and Illustrations. Price 25s.
Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

ON THE BREAST.
By DUNCAN C. L. FITZWILLIAMS,
C.M.G., M.D., Ch.M., F.R.C.S. Ed. and Eng.
Royal 8vo. 456 pp. 2 Plates, 166 Illustrations. 30s. net.
LANCET.—"The book is packed with accurate clinical observations and bears evidence throughout of extensive clinical experience and wide reading on the part of the author."
Wm. Heinemann (Medical Books) Ltd., 20, Bedford-street, London, W.C.2.

Second Edition, Revised and Enlarged. 12s. 6d. net.
HIGH BLOOD PRESSURE.
A MANUAL FOR PRACTITIONERS. Illustrated.
By J. F. HALLS DALLY, M.A., M.D., B.C. Cantab., M.R.C.P. Lond.
Physician to Mount Vernon Hospital for Diseases of the Chest, etc.
W. Heinemann (Medical Books) Ltd., 20, Bedford-st., London, W.C.2.

SEGREGATION AND AUTOGAMY
IN BACTERIA.
A CONTRIBUTION TO CELLULAR BIOLOGY.
By F. H. STEWART, M.A., D.Sc., M.D.,
Major, Indian Medical Service (Retired).
With 4 Plates and 23 Tables. Price 7s. 6d. net; postage 3d.
Adlard & Son, Limited, 21, Hart Street, W.C.1.

CANCER OF THE BREAST
AND ITS TREATMENT.
By W. SAMPSON HANDLEY, M.S., M.D. Lond., F.R.C.S. Eng.
Second Revised Edition. With 82 Illustrations. 30s. net.
Published for the Middlesex Hosp. Press by John Murray, London.

A NEW AND ENLARGED EDITION. With an additional plate, at 15s. net; post free, inland 15s. 9d., abroad 16s. 6d.
CONTRACEPTION
ITS THEORY, HISTORY AND PRACTICE.
A Manual for the Medical and Legal Professions and all Social Workers.
By MARIE CARMICHAEL STOPES, D.Sc.
Fellow of University College, London.
Introduction by the late Prof. Sir WILLIAM BAYLISS, F.R.S.
Introductory Notes by Sir JAMES BARR, M.D., Dr. C. ROLLESTON, Dr. JANE HAWTHORNE, and "Obscurus."
A few press opinions of the 1st Edition:
MEDICAL TIMES.—"The book is unique and marks a new era."
THE LANCET.—"Much of the evidence contained in the book is quite unobtainable elsewhere."
Sir Archdall Reid in NATURE.—"Some such book as this had to be written, and this is very well written."
MED. REV.—"Should be read by all interested in racial welfare." This book is the first manual on the subject, and is packed with both helpful and interesting matter and much that is new and noteworthy.
London: John Bale, Sons & Danielsson, Limited, 83-91, Great Titchfield-street, Oxford-street. W. 1.

J. & A. CHURCHILL'S NEW BOOKS.

A HANDBOOK OF OPHTHALMOLOGY
By HUMPHREY NEAME, F.R.C.S., and
F. A. WILLIAMSON-NOBLE, F.R.C.S.
12 Coloured Plates and 194 Text-figures. 12s. 6d.

Long Looked-for,
Revised throughout and much Rewritten.
THE OPERATIONS OF SURGERY.
By R. P. ROWLANDS, O.B.E., M.S., F.R.C.S., and PHILIP TURNER, M.S., F.R.C.S., Surgeons, Guy's Hospital.
7th Edition, 900 Illus., 43 in Colour. 2 vols. £3 10 0.
EAST'S FORENSIC PSYCHIATRY IN CRIMINAL COURTS. 16s.
LUCAS'S MODERN PRACTICE OF PEDIATRICS. Illus. 30s.
PINEY'S RECENT ADVANCES IN HÆMATOLOGY. 12s. 6d.
QUEEN CHARLOTTE'S PRACTICE OF OBSTETRICS. 18s.
THE SCIENCE AND PRACTICE OF SURGERY,
By ROMANIS & MITCHINER,
Teachers of Surgery, St. Thomas's Hospital.
Vol. I. General Surgery. 14s. } 666 Illus.
Vol. II. Regional Surgery. 14s. }
WILLIAMS' MINOR SURGERY. 19th Ed. 10s. 6d.
PARRY'S FAMOUS MEDICAL TRIALS. 10s. 6d.
SEQUEIRA'S DISEASES OF THE SKIN. 4th Edition. 56 Coloured Plates, 309 Text-figs. 42s. Postage 9d.
London: J. & A. Churchill, 7, Great Marlborough-street, W.1.

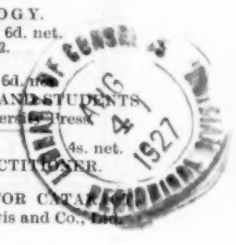
READY TO-DAY.

FORD'S BACTERIOLOGY.
A COMPLETE WORK
See Saunders' Advertisement on Page 5.

IN THE PRESS.
WORKS ON DISEASES OF THE EAR.
By CHARLES J. HEATH, F.R.C.S. Eng.,
Consulting Aural Surgeon, The Downs Hospital for Children; late Surgeon, Throat Hospital, Golden-square, London.
CATARRHAL "THROAT" OR HEREDITARY DEAFNESS: THE COMMONEST DEAFNESS IN THE ADULT. A new method of Treatment with Permanent Results. 2nd Edition.
OTITIS MEDIA (MASTOID DISEASE). THE COMMONEST CAUSE OF DEAFNESS IN CHILDREN. 2nd Edition, containing an illustrated description of the Author's Conservative Mastoid Operation for Preserving the hearing of the Discharging Ear.
EARLY CHOLESTEATOMA in Otitis Media. A RAPID DESTROYER OF THE HEARING BY EROSION OF THE OSSICLES. An amplification of a paper read before the 9th International Otological Congress.
Baillière, Tindall & Cox, 7 & 8, Henrietta-street, London, W.C.2.

NOW READY. 4/6 net.
THE TREATMENT OF
CHRONIC DEAFNESS.
BY THE ELECTROPHONOIDE METHOD OF ZUND-BURGUET.
By GEORGE C. CATHCART, M.A., M.D.,
Consulting Surgeon to the Throat Hospital, Golden-square.
Oxford University Press, Amen House, London, E.C.4.

BY LIEUT.-COL. ROBERT HENRY ELLIOT
M.D., B.S. Lond., F.R.C.S. Eng., I.M.S. retd.
A TREATISE ON GLAUCOMA.
2nd Edition, Revised and Enlarged. 30s. net.
TROPICAL OPHTHALMOLOGY.
With 7 Plates and 117 Illustrations. 31s. 6d. net.
Spanish and French Editions, 1922.
THE CARE OF EYE CASES: 12s. 6d. net.
A MANUAL FOR NURSES, PRACTITIONERS, AND STUDENTS.
Chinese Edition. Oxford University Press.
GLAUCOMA 4s. net.
A HANDBOOK FOR THE GENERAL PRACTITIONER.
THE INDIAN OPERATION OF COUCHING FOR CATARACT.
7s. 6d. net. H. K. Lewis and Co., Ltd.



Trade Mark **'PYRAMIDON'** Brand

Original Brand—DIMETHYL-AMIDO-PHENAZONE.

ANTIPYRETIC

"In the fever of consumptives, doses 2-5 grains 'Pyramidon' quickly reduced the temperature."

ANALGESIC

"For the lightning pains of tabes 'Pyramidon' is most effective."

ANTI-NEURALGIC

"'Pyramidon' has been prescribed with advantage in trigeminal neuralgia, neuralgia, toothache, migraine, etc."

Obtainable :—Tablets, 5 grains, bottles of 10 and 25.
„ 1½ „ „ 20 and 100.

BAYER PRODUCTS LIMITED, 19, St. Dunstan's Hill, London, E.C.3.

Schering

Medinal TRADE MARK

HYPNOTIC & SEDATIVE

Safe and Soluble.

"Medinal gr. **5** or gr. **10** may be used for **long periods,** is easily administered and without risks."

"Medinal probably more nearly **approaches the ideal** than any other available hypnotic."

Veramon TRADE MARK

RAPID RELIEF OF PAIN

Especially in Dysmenorrhœa.

"Gave Veramon to a friend who suffers considerably with **Dysmenorrhœa,** with astoundingly successful results."

"I have used Veramon in Cases of **Persistent Headache** with excellent results."

SCHERING LTD., 3, Lloyd's Avenue, LONDON, E.C.3.

Telephone No. : **Royal 7580.** Telegraphic Address : **Scheropha, Fen, London.**

THE LANCET

No. 5421. LONDON, SATURDAY, JULY 23, 1927. CCXIII.

CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

AN ADDRESS on the Strategic Front of Medicine To-Day. By Sir ROBERT PHILIP, M.D. 157

AN ADDRESS on Clinical Training in Obstetrics and Gynæcology. By JOHN S. FAIRBAIRN, B.M., F.R.C.P., F.R.C.S. 163

ORIGINAL ARTICLES.

Jaundice in Relation to Surgery. By E. R. FLINT, F.R.C.S. 165

The Mortality from Hæmatemesis. By ERNEST BULMER, M.D.—*(Illustrated)* 168

The Prevention of Pyorrhœa. By F. D. DONOVAN, L.D.S. R.C.S. 171

CLINICAL AND LABORATORY NOTES.

Self-Induced "Reduction en Masse." By PHILIP HAWE, M.B., F.R.C.S... 172

Analysis of Some Unusual Intestinal Concretions. By A. WOODMANSEY, M.Sc. 172

Several Abnormalities in the Same Patient. By MAURICE E. M. JAGO, M.B., B.S. 173

MEDICAL SOCIETIES.

Oxford Ophthalmological Congress: Operative Treatment of Glaucoma 173

REVIEWS AND NOTICES OF BOOKS.

An Introduction to the Practice of Preventive Medicine. By Prof. J. G. Fitzgerald, M.D. 175

Preventive Medicine and Hygiene. By Prof. Milton J. Rosenau..... 175

Beiträge zur Geschichte der Erkennung der Beri-beri als Avitaminose. Von Prof. Dr. G. Grijns..... 176

Quarterly Review of Biology 176

LEADING ARTICLES.

THE ENCROACHMENT UPON INDIVIDUAL PRACTICE .. 177

VENEREAL DISEASE AND PROFESSIONAL SECRECY. 178

GLAUCOMA 178

ANNOTATIONS.

Research on Enzymes 179

Aural Vertigo..... 180

Biochemistry and Medicine 180

Charles Creighton 180

Basal Metabolism in Thyroid Disease..... 180

The Teaching of Tuberculosis 181

Living Cytology..... 181

Rockefeller Publications .. 181

Anaphylaxis and Urticaria 182

International Ophthalmological Congresses 182

Medical Research in the Colonies 182

The New Episcope at the Royal Society of Medicine —*(Illustrated)* 183

MODERN TECHNIQUE IN TREATMENT.

CCXXXIII.—Chronic Pancreatitis. By H. E. GRIFFITHS, M.S., F.R.C.S. 183

REPORTS AND ANALYTICAL RECORDS.

Austin's Orange Marmalade (Sugarless).—Hindes' Brown Hair Tint.—Kia-Ora Lemon Squash 176

PUBLIC HEALTH SERVICES.

Reports of School Medical Officers, County of London 199

Port Sanitary Authorities. 200

Infectious Disease in England and Wales 200

Typhus Fever at Bristol.. 199

THE SERVICES.

Royal Naval Medical Service.—Royal Army Medical Corps.—Royal Air Force 201

INDEX NOTICE.

THE LANCET, Vol. I., 1927 179

SPECIAL ARTICLES.

Emancipators. By Prof. HARVEY CUSHING, C.B., F.R.C.S. 185

International Ophthalmological Congresses 186

British Medical Association: Representative Meeting, Edinburgh: Medical Ethics.—Pathological Institutes and Reports.—Orthopædic Treatment.. 187

Congress of the Royal Sanitary Institute: Changes in the Poor-law.—Welfare Work and Hygiene in Factories.... 193

Middlesex Hospital. New Institute of Biochemistry..... 195

London and Counties Medical Protection Society. Annual Report 196

National Health Services in Ireland 198

Paris: A Sign of Hepatic Insufficiency 198

CORRESPONDENCE.

Diet and Dietists (Miss Gladys Hartwell, Sir Thomas Horder, Dr. S. G. Moore, Profs. V. H. Mottram, H. E. Roaf, and T. B. Wood; Prof. R. H. A. Plimmer; Dr. A. P. Luff; and Dr. S. H. Belfrage) 201

Diphtheria in London (Dr. J. Graham Forbes)..... 203

A Disclaimer from Prof. Steinach 203

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics: Compensation for Improvements to Professional Premises.—Pensions Administration.—Home Office and Industrial Diseases.—Diseases of Animals Bill 204

House of Lords: Midwives and Maternity Homes (Scotland) Bill.—Medical and Dentists Acts Amendment Bill..... 208

House of Commons: Slum Clearance Schemes.—Milk Consumption in Great Britain 208

MEDICAL NEWS.

University of Cambridge.. 208

Roy. Coll. Surg. of Eng... 208

Univ. of Belfast..... 209

Univ. of Birmingham..... 209

Univ. of Edinburgh..... 209

Roy. Coll. Surg. Edin..... 209

Roy. Coll. Phys. Edin..... 209

University College Hospital 162

Aldershot Hospital Extension 162

Bethnal Green Hospital... 175

Wantage Cottage Hospital 175

Coventry Hospital..... 186

Selby War Memorial Hosp. 186

A Memorial to Lord Lister 193

Hampshire Home of Recovery 193

The late Dr. John Purcell 203

Tuberculosis in Carnarvonshire 203

Housing and Town-Planning..... 209

Marie Celeste Annexe for Men 209

Fellowship of Med. and Post-Grad. Med. Assoc.. 209

Medical Insurance Agency 209

Dundee Hospital..... 210

Assoc. of Surg. of Gt. Britain and Ireland 210

Plague-infected Rats 210

Legacy for Medical Research 210

King Fuad at Royal Free Hosp. 210

Gifts for Playing Fields.... 210

Memorial to Dr. Stewart Hutchinson 210

The late Dr. A. Bruce Low 210

Scrotal Cancer 210

Savernake Hospital 210

Civil List Pensions 210

The late Dr. C. K. Scales 210

NOTES, COMMENTS, AND ABSTRACTS.

Diathermy for the Common Cold.—*(Illustrated)* 211

The Medical King's Prizeman 211

The Menace of Mental Deficiency 212

"Deratisation"..... 212

Goat Keeping 212

An Indian Dental Journal 212

A Laboratory Robot..... 212

The Leprosarium at Makogai 212

Small-pox and Vaccination 212

Medical Diary 210

Appointments 211

Vacancies 211

Births, Marriages, Deaths 211

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY LIMITED.

(FOUNDED 1892.)

Registered Office: VICTORY HOUSE, LEICESTER SQUARE, W.C.2.

Telegrams: "MEDICAVERO, WESTRAND, LONDON." *Telephone:* REGENT 0611.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.
Treasurer and Chairman of Council: C. M. FEGEN, M.R.C.S., L.R.C.P., D.P.H.
Trustees for the Reserve Fund:
Rt. Hon. LORD DAWSON, G.C.V.O., K.C.B., M.D., F.R.C.P. Sir ANTHONY A. BOWLBY, Bart., K.C.B., K.C.M.G., K.C.V.O., F.R.C.S. Sir HARRY BALDWIN, C.V.O., M.R.C.S., L.D.S.

The Society was founded for the following purposes: To protect, support and safeguard the character and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional character and interests; and to indemnify them in regard to actions, etc., undertaken on their behalf.

SUBSCRIPTIONS. There is an Entrance Fee of 10s., and an Annual Subscription of £1.

The Invested Funds of the Society exceed £38,100. The Society is fully insured to an unlimited extent against all adverse costs and damages which may be awarded against Members in any action which the Society undertakes on their behalf.

Forms of application for Membership and full particulars may be obtained from the Secretaries at the above address.

Drive your Point *Home!*

Make good articles, make them well, write sound advertising matter about them, and get their good points home to the public—right into two million homes, and drive them home to eight million people on Sunday.

Give your business that added impetus which will keep you *always* busy.

Every Sunday one-sixth of the population of the United Kingdom read the Sunday Pictorial, the one day of the week they have leisure to study your announcements *thoroughly;* create your demand in the Sunday Pictorial and you sell for the rest of the week.

Specimen Copy, Rates and full particulars will be sent on application to

SIDNEY D. NICHOLLS,
Advertisement Manager,
GERALDINE HOUSE,
Rolls Buildings, Fetter Lane, E.C. 4.

'Phone: HOLBORN 4321. Telegrams: NUSUNPIC, FLEET, LONDON.

ADVERTISE IN

The Sunday Pictorial

CIRCULATION CONSIDERABLY OVER TWO MILLION COPIES PER WEEK

A CAMPAIGN IN ITSELF

An Address
ON THE
STRATEGIC FRONT OF MEDICINE TO-DAY.

Being the Presidential Address delivered at the Annual Meeting of the British Medical Association at Edinburgh, on Tuesday, July 19th,

BY SIR ROBERT PHILIP, M.D., F.R.C.P. EDIN., LL.D., HON. F.R.C.S. EDIN.,

HONORARY PHYSICIAN TO HIS MAJESTY IN SCOTLAND; PHYSICIAN CONSULTANT, ROYAL INFIRMARY, EDINBURGH.

[THE lecturer first briefly surveyed the three previous occasions on which the British Medical Association had come to Edinburgh, calling attention to the links which connected Sir Charles Hastings with the city. He followed with an eloquent summary of Lister's work and character, and continued:—]

If Listerism embodied the fruitful protest of a master mind before the hecatombs which desecrated surgical practice in his time, Listerism did not stand alone. Other influences were at work making for the betterment of national health. Lister was a mighty pioneer. He was at the same time the expression of his age. Side by side with the development of the revolution in surgery there were indications of the coming wave of preventive medicine which, reinforced by Listerism, was destined to advance with the certainty of a tide.

GRIM FEATURES OF COMMUNAL LIFE.

In the first half of the nineteenth century health conditions throughout the country afford in the wider sphere striking parallel to the grim condition of hospitalism which Lister found himself up against.

Many pictures might be drawn from town and country. The state of matters in the metropolitan area about the time of Queen Victoria's accession may be described in the words of Dr. Southwood Smith, physician to the London Fever Hospital. Writing of the year which ended March 20th, 1838, and of the districts inhabited by the poorer classes, he says: "Such is the filthy, close, and crowded state of the houses, and the poisonous condition of the localities in which the greater part of the houses are situated, from the total want of drainage, and the masses of putrefying matters of all sorts which are allowed to remain and accumulate indefinitely, that, during the last year, in several of the parishes, both relieving officers and medical men lost their lives in consequence of the brief stay in these places which they were obliged to make in the performance of their duties. Yet in these pestilential places the industrious poor are obliged to take up their abode; they have no choice; they must live in what houses they can get nearest the places where they find employment. By no prudence or forethought on their part can they avoid the dreadful evils to which they are thus exposed. No returns can show the amount of suffering which they have had to endure from causes of this kind during the last year; but the present returns indicate some of the final results of that suffering; they show that, out of 77,000 persons, 14,000 have been attacked with fever, one-fifth part of the whole; and that, out of the 14,000 attacked, nearly 1300 have died. . . . It is notorious that this disease has been very prevalent during the last year among the industrious classes who have never received parochial relief, and that it has found its way even into the dwellings of the rich, where it has proved extremely mortal. Generated in Bethnal Green, in Whitechapel, in St. George-the-Martyr, in Lambeth, in Holborn, &c., it has spread to the better streets in the immediate neighbourhood of these and similar places, and thence to still wider and more airy streets at a greater distance, and ultimately to the most remote streets and the great squares."

CHADWICK'S RECONNAISSANCE.

It was amid such surroundings that the sanitary conscience was awakened within the breast of Edwin Chadwick, who stands related to the development of public health somewhat as Lister is to the renaissance of surgery. To Chadwick's healthy, sane mind the world seemed a "lazar-house, wherein were laid numbers of all diseased." Environmental conditions made healthy life impossible. There was no escape, save by re-orientation and reform. Queen Victoria had just been crowned, Lister was 10 years of age, and Chadwick 37. Yet Britain was apparently spending little more than £2000 per annum towards everything that concerned public health.

Thence onwards, throughout a long life, Chadwick's thought and energy were constantly directed towards the recovery of the nation from the inevitable consequences of blindness and inaction. His secret "lay in the conception that the life of man is so entirely influenced and affected by its surroundings, that by a perfected sanitary code the death-rates may be made, practically, whatever we like to make them, until we arrive at that natural duration of human existence which is bounded by anatomical or physiological law."

Impelled by such considerations Chadwick began his insistent inquiries into the condition of London and the health of the labouring classes of other parts of England and Wales, which led to the appointment of the Sanitary Commission in 1844, and the formation in 1848 of the short-lived first Board of Health, of which Chadwick was one of four commissioners. Thereafter his labours—in chief part unofficial—were unceasing in relation to every aspect of sanitation in Britain and elsewhere. He was recognised widely outside Britain as one of the great master spirits, one of the first to awaken the careless public all over the world to the dangers they were creating for themselves. In France, towards the end of his life, he was described as "une des gloires de l'Angleterre."

Even if temperamentally he was not of the kind who drew all men unto him, Chadwick did not stand alone. He had close colleagues and keen fellow workers. Among these may be named especially Dr. Southwood Smith, Dr. Kay, and two men having special connexions with Edinburgh—namely, Dr. Neil Arnott and Prof. W. P. Allison, who occupied this chair at the 1858 meeting, and of laymen, Lord Shaftesbury, Charles Kingsley, and Florence Nightingale.

DAWN OF PREVENTIVE MEDICINE.

From 1840—when, thanks to William Farr, our system of registration began to have value—up to 1870, the death-rate of England remained uniformly high—over 22 per 1000 of the population. In 1869 the Royal Sanitary Commission was appointed "to inquire into and report upon the operation of the various laws then in force for promoting the public health and preventing epidemic diseases; and into and upon the administration of those laws, including the constitution of the administrative authorities, central and local, and the formation of areas proper to be controlled by local authorities; and into and upon the operation of the registration system in respect of certificates of causes of death; and the Commission was to suggest improvements in all or any of those matters, with the means for carrying such improvements into effect."

It is significant that the Royal Commission of 1869 followed the submission of a memorial to the Government by a joint committee appointed by the British Medical Association and the Social Science Association "to promote a better administration of the laws relating to registration, medico-legal inquiries, and the improvement of the public health."

REPORT OF ROYAL COMMISSION.

The Commissioners reported in 1871, and their recommendations, which have a remarkably fresh ring, included the following: "The present fragmen-

tary and confused sanitary legislation should be consolidated; the administration of sanitary law should be made uniform, universal, and imperative throughout the kingdom; all powers requisite for the health of towns and country should in every place be possessed by one responsible local authority, kept in action and assisted by a superior authority; there should be one local authority for all public health purposes in every place, so that no area should be without such an authority, or have more than one; the administration of the laws concerning the public health and the relief of the poor should be presided over by one minister . . . whose title should clearly signify that he has charge of both departments; the central authority . . . charged in one of its departments with the superintendence of all sanitary authorities, and equipped with a sufficient staff of officers . . . must nevertheless avoid taking to itself the actual work of local government; we would leave *direction* only in the central power. . . . The new department will have to keep all local authorities and their officers in the active exercise of their own legally imposed and responsible functions; to make itself acquainted with any default and to remedy it; it will have also to discharge to a much greater extent its present duties . . . namely, to direct inquiries, medical or otherwise, to give advice and new plans when required, to sanction some of the larger proceedings of the local authorities, to issue provisional orders subject to Parliamentary confirmation, to receive complaints and appeals, to issue medical regulations on emergencies, and to collect medical reports; every local authority should have at least one officer of health, being a legally qualified medical practitioner, or possessing such other qualification in medical science as shall be declared by the central authority to be satisfactory."

STATE ASSUMES RESPONSIBILITY.

The recommendations of the Commission were accepted in 1871 by Parliament. The Local Government Board—one for each division of Britain—was established. This constituted an initial step of first importance in the sphere of health. The State and Legislature now recognised as never before the meaning and value of the health of the people, assumed responsibility for its maintenance, and began to shape machinery on a national scale for its preservation and improvement.

The establishment of the Local Government Board, so far as it concerned health, implied (*a*) central guidance and direction, and (*b*) peripheral (local) interest and activity. It fell to the President of the Local Government Board, supported by eight ministerial colleagues and expert advisers, to consider matters affecting communal health and demands made by the quickened intelligence of the nation. Even if the Local Government Board seldom or never met, it devolved on the President to keep in close organic touch with 1809 local councils or boards which constituted the system. To those local bodies were assigned duties and responsibilities. Thus, the appointment by each sanitary area of a medical officer of health and a sanitary inspector was enjoined by statute. All this meant a very practical awakening throughout the land.

SANITAS SANITATUM, OMNIA SANITAS.

It was on April 3rd, 1872, at a great meeting in Manchester, in a speech which held "an enthusiastic audience with unflagging spirit for three hours and a quarter," that Disraeli recalled a suggestion he had made eight years before at Aylesbury—namely, that the words attributed to the wisest of mankind, "*Vanitas vanitatum, omnia vanitas*," must have been a misquotation, and that the words of the wise king were "*Sanitas sanitatum, omnia sanitas*," and that, if so, they constituted one of his best claims to be considered the wisest of mankind; and Disraeli concluded with the words, "After all, the first consideration of a Minister should be the health of the people."

1875–1927.

Thus far it has been my endeavour to show how, on the one hand, Lister was a forerunner in relation to preventive medicine, and how, on the other, his work reflected and re-enforced the trend of thought and effort of his time.

It may be convenient to recall some of the features of medical life round about the 1875 meeting, and compare them with the present day. A glance at the calendar of Edinburgh University for 1875 and at the record of the meeting is enlightening.

In 1875 the Medical Faculty of the University comprised 12 professors and 14 assistants, while the current (1927) list comprises 18 professors, 79 lecturers, and 38 assistants. At the 1875 meeting of the Association the separate sections numbered 6, while on the present occasion—after scrupulous pruning by the Arrangements Committee—they number 21. Reference to the titles of discussions and papers in 1875 emphasises the striking difference of outlook. The principles of preventive medicine, as understood to-day, were little in evidence. Of the numerous papers and subjects under discussion the only allusion to prevention occurs in connexion with scarlet fever, puerperal fever, and miscarriages. The relation of disease to micro-organismal life hardly emerges, apart from Lister's opening address. Bacteriology had not come into being. In 1875, for the first time, there was a section of public health, presided over by the Right Hon. Lyon Playfair, M.P. Yet it is to be observed that the subjects brought before the section included for the most part topics bearing on ventilation, drainage, vital statistics, the meteorological relationships of disease, &c., with little indication of the preventive outlook in the modern sense.

HAS THE PRACTICE OF MEDICINE ADVANCED SINCE HIPPOCRATES?

At the meeting in 1875 the address in medicine was delivered by one of the most thoughtful physicians of his age, Dr. James Warburton Begbie. He took for his subject "Ancient and Modern Practice of Medicine," and by way of preface quoted a remarkable question asked in 1852 by Sir William Hamilton, who was long the distinguished exponent of philosophy at Edinburgh: "Has the *practice* of medicine made a single step since Hippocrates?"

Sir William Hamilton's rather negative answer to the question was traversed by Dr. Warburton Begbie in an historical review which, even to-day, the student of medicine will find interesting, and by the citation of recent advances in treatment to which, at that date, Dr. Begbie thought reference was especially due. If the champion of medicine in 1875 was able to rebut effectually the reproach implied in the question, how much easier would be the task to-day! It is not my purpose to advance a studied defence. Progress in the practice of medicine during the past 50 years has been phenomenal. Countless illustrations will occur to everyone who is familiar with the developments of the past half century.

The great wave that was initiated by the genius of Pasteur and re-enforced by the originality of von Behring has refreshed the brain of medicine and directed its energies into channels of amazing width. Need I cite the complete revision of outlook and practice in the ever-widening group of infective processes? The adaptation of the principles of scientific cleanliness and the utilisation of the elemental properties of air and light, as notably in tuberculosis, have got deep down to the root of things, and given promise in the realm of medicine no less extensive than has been realised by the acceptance of Listerism in the realm of surgery. What more thrilling romance than the story of tropical diseases which, 50 years ago, constituted a *terra incognita* shrouded in mystery and tragedy? Recall the triumphs in relation to cholera, malaria, dysentery, enteric fever, sleeping sickness, and others. Incidentally, I may remind you that it was at the last meeting of the Association at Edinburgh in 1898 that Sir Patrick Manson revealed

to a thrilled audience the demonstration of the transmission of malaria by mosquitoes.

Recall the extending list of diseases which have been traced to intoxications and to parasites. The murky, malodorous fog which enveloped venereal disease has been largely dispelled. Syphilis and gonorrhœa are handled openly and scientifically throughout the land.

Recall the great vista opened up by clinical observations and experimental investigation on the ductless glands, which has resulted in a reconception of glandular values and the constitution of a new department of medicine—endocrinology. Recall our present attitude to the nervous system. While the teaching of the nervous system given to undergraduates 50 years ago covered the broad lines of structure, function, and pathological disturbance, the gap is indescribable between that and the precision of to-day, whereby lesions of very varying character can be differentiated and localised almost with the certainty of the physical laboratory. A department of neurology has been constituted, and the practice of psychiatry has become scientific. The old asylum as a house of detention with sombre portal (Abandon hope, all ye who enter here) has become transfigured by the spirit of the age into a home of prevention and a tabernacle of hope.

Diseases of the circulation were well understood 50 years ago. In no department had British medicine rendered more conspicuous service since the days of William Harvey. But think of the increase of knowledge and application of exact methods which the present generation has witnessed. The problem of the circulatory mechanism has been linked with that of the circulating fluid. The secret of blood changes as cause of disease and as expression of disease has been gradually unfolded by patient, original investigations. Cardiology and hæmatology now form departments of their own.

Similar references might be made to advances in relation to diseases of respiration, digestion, excretion. By the application to medicine of biological principles and chemical and physiological procedure, the physician is throwing light on the meaning of symptoms and changes previously obscure, and the department of biochemistry has emerged.

The natural history of diseases is being followed from the beginning, step by step, through successive stages which almost certainly develop unless the chain of events be broken by other influence. With what remarkable éclat this succession of events can be interrupted was dramatically illustrated in the discovery of insulin, which, whatever its ultimate place in the armamentarium of medicine, has effected changes in the life and outlook of a large group of human sufferers such as was hardly conceived possible a few years ago.

Other such therapeutic conquests occur to us all. I am little concerned for the moment with cataloguing their number. My purpose is rather to underline the statement that, within recent years, truly marvellous advances have occurred in the practice of medicine. These have been partly the natural development of lines of observation, long continued, at the bedside and in the post-mortem room. In considerable part they have resulted from the absorption into medicine of advances in the basal sciences of biology, physics, chemistry, anatomy, and physiology.

Those illustrations have been culled at random from the field of medicine, in view of Hamilton's question. Examples might have been found no less abundantly in relation to surgery. The point has already been developed in speaking of Lord Lister. Anæsthesia and asepsis paved the way for a sure and rapid development of surgical procedure. Technique became quickly refined and surgery bounded ahead. With the limitless opportunities tragically offered by the war and the urgency of peril which justified the knife as never before, there came the occasion of enterprise to many capable men who otherwise would ot have had the chance. Whether the spirit of adventure has carried some of them too far, it is not my present purpose to consider.

Most of the so-called specialties have reared their heads since 1875. Many have become lusty growths, scientifically based, beneficent to the sufferer, and not unkindly to the labourer who is worthy of his hire. If the critic speak lightly of the specialist, it is often through ignorance of what specialisation in the proper sense means, and the scientific advances it implies. In his turn the specialist will be watchful, lest limitation of the scientific spirit and the presence of other motives give point to the captiousness of the cynic who, ignorant of the verities, is apt to interpret action according to his own standard.

EXTENSION OF FRONT LINE.

It is to more general indications of change that I now ask your attention. From the side of the State, following the creation of local government boards, came the gradual development of machinery, both central and peripheral. This was a difficult and delicate matter. The necessary adjustments at both ends required time and patience. Yet, as Sir John Simon says, "the fact that the medical profession had been brought into statutory relations with the local government of the kingdom, even though the relations were yet of rude kind, was obviously in principle a fact of good sanitary promise. . . . The medical profession being of such spirit as it happily is, those who knew it could feel sure that by many of its members who had become officers of health under conditions most disadvantageous and discouraging, great exertions would be made, great disinterestedness be shown, in trying to make their individual appointments bear fruit."

An obvious difficulty lay in the fact that local authorities were not all willing to do their part, and, even when they were willing, their knowledge and vision were limited. Time and education were required. It is impossible on the present occasion to follow closely the stages in the evolution of the boards' activities, which included not merely administration, but scientific inquiry and investigation. We must look rather at the outcome of these developments.

The passing of successive Public Health Acts, the National Health Insurance Act, and the Education Act, have stereotyped progressive advances and afforded fresh avenues of thought and effort.

Outward symbols of change are to be found in notification of certain infections, the segregation of fevers and other cases in special hospitals under expert direction, the creation of bodies of medical officers concerned with tuberculosis, maternity and child welfare, venereal diseases, inspection of school children, &c. Other evidence is yielded in the institution by the universities and licensing bodies of degrees and diplomas in public health, and, in connexion therewith, a special curriculum of training recently revised and extended by the General Medical Council. In Edinburgh University, for example, there was established in 1898 a chair in public health, and about the same time a special institute for the study of preventive medicine; also in 1898 a lectureship on diseases of tropical climates, in 1904 a lectureship on infective fevers, in 1913 a chair in bacteriology, in 1917 a chair in tuberculosis, and in 1919 a lectureship on venereal diseases, all of which have intimate relationships with the problems of prevention, immediate and ultimate. One of the latest outward expressions of the advancing tide is the munificent gift to the nation by the Rockefeller Foundation of £400,000, for the purpose of erecting the London School of Hygiene and Tropical Diseases.

On the eve of the last Edinburgh meeting (1898) it fell to me to publish in the *British Medical Journal* an address on the universal applicability of the open-air treatment of pulmonary tuberculosis. At that date there were not more than two or three sanatoriums in Great Britain. To-day there exist in England, Wales, and Scotland, under the control of the State, no fewer than 307 sanatoriums, excluding

general hospitals receiving cases of tuberculosis, and 151 voluntary or proprietary sanatoriums. At the date of last meeting there was one tuberculosis dispensary. To-day there are in England, Wales, and Scotland, under the direction of the State, 515 dispensaries, and similar institutions have been established in most countries of the world.

In 1875 the mortality from all forms of tuberculosis in Scotland was 361 per 100,000, while in 1925 it was 110. In 1875 the mortality from pulmonary tuberculosis in Scotland was 252 per 100,000, while in 1925 it was 76. In other words, during the 50 years there has occurred in each case a total drop in mortality of over two-thirds. This is something more than part expression of the reduction of the general death-rate of the country, in which the fall during the same period amounted to less than one-half. The relative fall is illustrated by the fact that, while in 1875 deaths from pulmonary tuberculosis constituted 10·6 per cent. of deaths from all causes, in 1925 they constituted only 5·7 per cent.

If, in England, Wales, and Scotland the death-rate of 1875 had continued, there might have been expected in 1925, with the increased population, 107,999 deaths, whereas actually only 36,116 deaths occurred. In other words, there was a saving of 71,883 lives during the year—that is, over 66·5 per cent.

Having regard to the natural history of the disease and the possibilities of well-concerted warfare, I ventured in 1910 to prophesy, when speaking of the adoption in New York State of a coördinated tuberculosis scheme like that adopted by Britain three years later, that, granted the serious prosecution of the scheme, and special attention to the child as potential tuberculosis seedling, the practical disappearance of tuberculosis might be expected by 1950–55. To-day, in spite of the interruption and difficulties introduced by the war, I am prepared, on the necessary assumption that the methods are vigorously pressed, to believe that my successor at the next Edinburgh meeting—say, 30 years hence—will speak of tuberculosis in this country as largely a memory of the past.

By the passage of the Act which established the Ministry of Health (England) and the Board of Health (Scotland) the State has even more definitely—if language implies anything—shouldered her responsibility in relation to preventive medicine. A beginning has been made towards the inclusion and coördination under a common head of administrative departments concerned with health matters. It is not my purpose to discuss the completeness of the provision or the sufficiency of details. There has been a good deal of stumbling and muddling which seems characteristic of progress in England, but the machine, even if cumbrous and creaking, is functioning throughout the land. I am content for the moment to underline what I believe to be unchallengeable, that Britain possesses the amplest machinery to be found anywhere for the prevention of disease—machinery which, by reason of its completeness from centre to periphery, and its uniformity of operation, is justly the envy of the world.

WIDENING OBJECTIVE.

If the present position is relatively good, it has been the outcome of continuous striving after ideals inspired in the earlier days by individual thinkers and workers. But we are far from the last lap in the race.

One thing is clear. Things will not rest where they are. What is to be the line of further advance? The man-power of medicine is vast—greater than ever. The field forces are distributed in instructed groups. They are well officered, and there is abundance of consultative and advisory bodies to whom debatable points may be referred. What is to be the objective of this mighty army? What is the strategic front of medicine to-day?

Medicine has been described as the science and art of healing. Throughout the ages she has been the champion of man against disease and death. Her sacred mission has been expressed variously in successive centuries. Her triumphs have been great.

It has been my endeavour to show that some 80 years ago there began to be evident a great turning movement. The vision of medicine became enlarged and the objective correspondingly altered. Without passing from the care of the individual sick man, for whom medicine will always have earnest solicitude, she has gradually begun to think in terms of groups and communities. In Britain this change of outlook has been hastened by the great wave of urbanisation which has passed over the country—a transfer within less than a century from 75 to 25 per cent. rural population, and from 25 to 75 per cent. urban population. This has inevitably directed thought towards common causal factors of disease—environmental influences which, significant as they are in the individual case, can be studied and interpreted best among the aggregations of men. This has insensibly determined inquiry towards the prevention of disease. This, in turn, has impelled consideration of the early manifestations of disease. Medicine has ceased to be merely the healing art.

COMMUNAL EFFORT: GROUP PRACTICE.

The fact of illness means much to the sick man, and has a first place in his doctor's mind. Yet from another point of view the treatment of the individual becomes an incident in a larger enterprise. Individual illness means more than it used to do. Its occurrence raises far-reaching questions of cause and of remedy, the solution of which will lead to the prevention of similar occurrence in persons similarly disposed all over the country. Those considerations are of particular significance in relation to widely prevalent diseases, such as cancer, tuberculosis, rheumatism, occupational disorders, &c. Such affections take time to develop. Yet for the most part they are well established before they come under review by the doctor. If medicine is to be effective in respect of these conditions, it can only be by an alteration in the attitude both of doctor and of patient.

The doctor is sometimes called the family adviser. To what extent is the relationship which that term connotes realised? To what extent is it realised in family practice? To what extent is it realised in group practice? The introduction of panel practice—whatever objection may be taken to the particular model established by the statute—has opened great possibilities. The panel doctor, retained as medical adviser, continues to treat illness and accident as before, but he has a potential in relation to persons on his panel which, if thoughtfully used, may make for prevention on a large scale. In view of the form of contract, it is indeed to the selfish interest of the doctor to consider and anticipate environmental conditions likely to prejudice his clientèle. It will be to the mutual advantage of patient and doctor that he should become a preventive agent; and the health of the community will be correspondingly advanced.

The principle is readily applicable in all group practice and might advantageously be extended to what is generally known as private practice. What is wanted is a scheme of intelligent protection against illness. Why should not private contracts be arranged on the oriental line of payment for keeping the client well? At least there should be between doctors and patients common agreement as to the advisability of periodic physical examination, on the lines of inspection for recruitment or life insurance, so that morbid tendencies or threatenings of disease may be nipped in the bud.

A number of years ago, when consulted by large employers of labour regarding the frequency of tuberculosis among their workers, it seemed to me right to advise them that "in the light of present-day knowledge, the occurrence of tuberculous disease in a certain number of workers may be interpreted as, in part at least, one of the penalties of industrial life... On economic no less than on scientific grounds there

is much to be said for the institution of a method which would insure that every newcomer to a given industry is, prior to admission, specially examined for the presence of tuberculosis—more especially pulmonary tuberculosis—and, if accepted, is thereafter examined from the same point of view, every four to six months, especially during the first few years." Such a scheme would assure advantage to the individual concerned, to his fellow-workmen, and to the employer alike. Some of the great insurance companies across the Atlantic have thought it worth while to arrange for the periodic examination of their policyholders. I have been assured by representatives of one company that from their point of view this is a good business proposition: Prevent serious illness and postpone death. Thereby maintain the annual income of the company through premiums and defer the ultimate payment to the policyholder, who is not likely to complain of the advantage which thus accrues to the company.

Why should such a system of medical examination not become general, and the family adviser be enabled to play his proper part in the prevention of disease? An approach to the method is already in vogue with the dentist, who enjoins his clients to submit to a periodic dental review, to which the client, with experience of pains and penalties, commonly accedes. If the owner of a valuable car thinks it sound economy to send it from time to time to be overhauled at the garage, why should expert overhauling of the human machinery seem less desirable?

OUT-FLANKING MOVEMENT.

The further disposition of the forces calls for a wider orientation of the field. The ultimate goal is something beyond mere prevention of disease, as commonly understood. The negative attitude is too restrictive. It is scientifically insufficient and unsatisfying. The final triumph of medicine will consist not in the exclusion of disease, but in the restoration to man of perfect form and natural function: the attainment of smooth activity of body, mind, and soul. Biology—anatomy and physiology—must be relied on to carry us further than pathology and therapeutics, as commonly understood. Medicine, thus enlarged, becomes a department of biology and constitutes, pro tanto, the science of human life.

Our pathological museums will then serve as agents of preventive medicine. I foresee a time when the bottled preparations—the "beautiful" specimens of to-day—will figure in large part as do ancient manuscripts in our libraries, or as the crude relics of the dark ages in an antiquarian museum. They will stereotype to all time some of the vicious by-products of partial civilisation—of imperfect adaptation to environment—and afford cogent stimulus towards prevision. Further recurrence of the conditions they illustrate will come to be regarded as little short of criminal.

UNITY OF PURPOSE: COLLABORATIVE EFFORT.

If the larger objective is to be reached there must be unification of purpose and solidarity throughout the forces engaged on the long strategic front. This involves considerations as to the training of students of medicine, and of candidates qualifying for special diplomas and for the nursing profession. It involves the direction and scope of medical research. It involves questions regarding the utilisation and coördination of different grades of hospitals and other medical institutions. It involves the relationships of various groups of medical practitioners to one another, and the relationship of the general body of medicine to various departments of the public health service. It involves the mutual relations of medicine and the general public, and the methods for securing trust and compliance. It orients afresh the connexion of medicine with the State. It makes insistent call for international goodwill and coöperation.

[Sir Robert Philip here detailed the menacing records of recruiting statistics, saying that the teaching of biology is not sufficiently insisted upon, and that research is not sufficiently conducted upon right principles. He continued:—]

REORIENTATION OF MEDICAL NEEDS.

The provision of well-equipped hospitals for the sick is one of the satisfying aspects of our civilisation. At first their foundation was for the most part voluntary. The inspiration was humanitarian and Christian. And long may the inspiration continue! The good Samaritan was a voluntary worker, unofficial, neither levite nor pharisee. The immediate object of the hospital, like that of early medicine, was relief of the individual sufferer. This outlook largely continues.

Now that the nation has shouldered the wide responsibility of both treatment and prevention, a reorientation of medical provision is necessary. The supply of hospital beds for persons who are seriously sick and in need of skilled care must be adequate in extent and fair in distribution throughout the country. But if hospitals are to have effective value in the larger field of prevention, there must be developed fuller possibilities for scientific investigation, and a completer follow-up service in relation to individual patients and their environment. The significance of this last point was pressed by me conspicuously in relation to tuberculosis, and formed a main plank in the programme of the tuberculosis dispensary as originally conceived 40 years ago. As to its value when properly conducted, there cannot be two opinions. The difficulty lies in the coördination of effective agencies.

The natural agent in the follow up is the family doctor, whether private or panel practitioner. In proportion as he is able to develop the preventive outlook, things will go well. When such natural provision is absent, or insufficient, there falls to someone else the delicate task of projecting the benefit obtained in hospital throughout the life of the patient at home and at work. This has become the field of the almoner or health visitor. Satisfactory fulfilment of the mission calls for wisdom and prudence in high degree. Within the field there are rich opportunities for scientific and social investigation.

In addition to the extension of service rendered by the individual hospital, there is great need to link up and coördinate the various types of hospitals. The different elements in the hospital network must be more or less united—loyal to the common cause and to each other. The élite within the group must lay less stress on amour propre and more on esprit de corps: Noblesse oblige. The better equipped hospitals and medical schools might do much to help smaller institutions and the great body of practitioners by sending out members of the staffs to coöperate with, and keep up to date, men who are stationed in the periphery.

The attitude of the Central Health Authority to the hospital question should be: Give us assurance that an adequate number of beds is available for the needs of the country, and that these are justly distributed in respect of the various areas and the various groups of diseases, and that their links with each other and with ancillary services are sufficient; it matters not to us whether the hospitals are maintained by voluntary effort or by the rates, or by such other machinery as may be found serviceable to the end. The fundamental requirement is that the Central Health Authority should have guarantee from the local authority that the provision of beds is adequate to the needs of its area, and that a jealous outlook is maintained in the direction of prevention.

UNIFICATION OF COMMAND.

As a preliminary to this, it is essential that responsibilities and powers relating to everything that concerns national health be vested centrally in one supreme health authority in the several portions of the kingdom, and peripherally in the various local health authorities acting under the central authority towards the common end. This means the inclusion in the department of health of a number of activities

which are presently outwith the department. The exclusion hampers procedure and development. Thus, in respect of hospital accommodation, there is everything to be said for the transference to the health department of the responsibility for medical treatment and care which is presently exercised by Poor-law authorities. All hospitals for the treatment of the sick should be included as component parts of a more or less uniform system applicable throughout the country. The legend over the door of the Royal Infirmary of Edinburgh—Patet omnibus—must inspire the nation's policy in matters of health. The advantages that would accrue to such transfer and combination are obvious in respect of the output of the collective group of hospitals, whether we consider that in terms of the treatment of the sick, the training of students and nurses, or the advance of medicine by observation and research. Let us hope that within a very short time the rearrangement will be secured by Act of Parliament.

ECONOMIC ALIGNMENT.

In connexion with the provision of hospitals, it is to be borne in mind that, in proportion as the preventive attitude is assumed by the medical profession, unofficial as well as official, the need for certain classes of hospital will grow less. This will bring economic advantage. Thus, when the truth of the dictum comes to be adequately accepted that "the tuberculosis of a people begins in the nursery and school-room, and that it is to the nursery and school-room that observation and effort must be directed if measures for the eradication of tuberculosis are to be fundamentally sound and practically effective," the need for the provision of hospitals for advanced stages of visceral disease and for crippled frames will progressively diminish. The time will come when hospitals for advanced disease and settlements for tuberculous wrecks will be regarded as anachronisms. In proportion as it is recognised that tuberculosis may be prevented or, at least, that the worser consequence of infection may be anticipated and averted, the scheme of remedial institutions which are immediately necessary because of the ignorance and neglect of the past will undergo progressive modification and curtailment.

With widening vision regarding hospital and ancillary services the relation between different sections of the profession will become simpler. Attachment to hospital and other medical institutions will become more general in the medical ranks. The medical corps throughout the land—official and unofficial—will be welded by the common aim to conserve the health of the nation. The result of the effort will depend ultimately on the general practitioner. It is to the family doctor, who is the effective embodiment of the spirit of the profession, that the nation must look for the development of the turning movement towards health. The family doctor, to whom the home in all its health interests should be no less open than the sick room, can contribute most to complete the success of the new strategy. The resources of medicine must be pooled. If there be community of purpose and knowledge, the tactics of the new advance are not beyond the wit and power of the profession. It is up to each arm to do its part.

Eighty-seven years ago Charles Wilson, a Scottish country practitioner, summed up the results of his observations on the health of the labouring population of the border town of Kelso as follows:—

> "When man shall be brought to acknowledge (as truth must finally constrain him to acknowledge) that it is by his own hand, through his neglect of a few obvious rules, that the seeds of disease are most lavishly sown within his frame and diffused over communities; when he shall have required of medical science to occupy itself rather with the prevention of maladies than with their cure; when Governments shall be induced to consider the preservation of a nation's health an object as important as the promotion of its commerce or the maintenance of its conquests, we may hope then to see the approach of those times when, after a life spent almost without sickness, we shall close the term of an unharassed existence by a peaceful euthanasia."

Most remarkable words, you will agree with me, for the year of grace 1840.

INTELLIGENCE DEPARTMENT.

The ordinary citizen needs to be educated. He is even now clamouring for knowledge. The lesson of health should begin in the school. Having regard to the marvellous heritage of health to which most individuals fall heirs at birth, it seems incredible that no systematic attempt has been made to instruct the entrant into life regarding its preservation. We must press for the more general inclusion within ordinary school teaching of training in the principles of health—*not* instruction regarding disease or a system of hygiene. What we want to ensure is, that the growing individual has a working knowledge of the make-up of his own body and its functions, and can appreciate beauty of form and know when smooth activity is disturbed. He must get to understand the close dependence of health on environment. The recent appointment at one of our public schools of a doctor as headmaster is an interesting experiment in the forward direction which seems to me commendable. The result will be followed with interest. It remains to be seen how the doctor compares with the clergyman and with the scholar in charge of developing boys. With youth sensibly trained about the machine which is peculiarly his own, it may be anticipated that within a generation the attitude of the nation to health questions will be completely changed.

Meantime, existing ignorance and post-war restlessness must be faced. There is need of popular education in the wider sense, and the dissemination of sound knowledge regarding health and the factors which make for disease. It must be insistently urged that, *the causes of disease being withdrawn, health is restored.*

To avoid the difficulties and pitfalls attendant on sporadic propaganda by individual members of the profession there should be an ordered attempt to use legitimate means to achieve the purpose. Medicine must roll out "the song seraphically free of taint of personality." Why should not the British Medical Association, through its network of branches, serve as chief voice? Within recent times the Council of the Association has been consulted by, and has been accorded entrée to the Ministry of Health regarding debatable subjects. Why should not each branch similarly form an accredited medium of communication with the corresponding local authority by means of reports on matters affecting the health of the area, and with the larger public by the press, through authoritative contributions on questions of living interest? The press is a great educator: *the university of the man in the street.* Medicine must court its alliance and contribute her best to abet its efforts.

[Sir Robert Philip concluded his address with an eloquent description of the international aims of medical workers.]

UNIVERSITY COLLEGE HOSPITAL.—Recently Princess Mary, Viscountess Lascelles, visited the Maternity Hospital at University College Hospital and made a complete tour of the wards. The pressure on the maternity wards is so great that mothers cannot, as a rule, be kept for more than ten days. The hospital was built out of the Rockefeller gift, and a sum of £180,000 was needed for the endowment of beds, of which £170,000 has been subscribed.

ALDERSHOT HOSPITAL EXTENSION.—The Mayor of Aldershot has inaugurated a campaign to raise money for a new operating theatre, X ray room, extension of the men's ward, and additional staff quarters at the Aldershot Hospital. More accommodation is badly needed in the hospital, and it is felt that in a town the size of Aldershot there must be adequate equipment to deal with both accident and disease. The estimated cost of the provisional extension and equipment is £6100, and the committee had raised £2800. Towards the additional £3300 needed the Mayor has so far received promises totalling £2000.

An Address
ON
CLINICAL TRAINING IN
OBSTETRICS AND GYNÆCOLOGY.

Read in Opening a Discussion at the Obstetrical and Gynæcological Society, Glasgow.

BY JOHN S. FAIRBAIRN, B.M., B.CH. OXF.,
F.R.C.P. LOND., F.R.C.S. ENG.,
OBSTETRIC PHYSICIAN, ST. THOMAS'S HOSPITAL, LONDON.

THE chief object of this paper is to urge the importance of clinical training in these subjects being so arranged that the students whilst learning their science and practice should also be stimulated to acquire the preventive bent of mind. Preventive medicine will not be considered as a special branch of medicine, but as an attitude of mind that may be developed and fostered in all the clinical studies. Obstetrics and gynæcology, especially if combined with or followed immediately by training in pædiatrics, offer a particularly favourable opportunity in this regard, owing both to certain distinctive characteristics of the subjects and to the late stage in the curriculum at which they are taken. During his service as medical clinical clerk and surgical dresser, the student has been taught from the pathological side—from observation of diseased and injured—because clinical material in hospital is of this type and because it is easier to teach diagnosis to the beginner on cases of well-established disease with obvious physical signs. The alternative system of beginning from the physiological side would appear to be the more rational sequence of the earlier non-clinical studies, but the testing of samples of the ordinary population in order to discover those showing weakness or early disorder of the bodily functions would be difficult to organise under present conditions in hospitals. Certain branches of medicine are suited to serve as training grounds from the physiological rather than the pathological aspect, and among these branches midwifery stands out prominently, for the very reason that it is so largely concerned with the normal processes of reproduction and how to keep them normal. If, however, the most is to be made of the difference in method, and if the student is to be trained in a fresh atmosphere, special thought must be given to the planning of the course of study.

THE ORIGINAL SYSTEM FOLLOWED AT ST. THOMAS'S HOSPITAL.

To illustrate the application of these principles, and to give a concrete example of an attempt to put them into practice, I will sketch the evolution of the system as now organised and working in my own school of St. Thomas's Hospital.

The system I wish to describe dates from 1910, and came into being as the result of the recommendations of the General Medical Council based on the report of the John Williams Committee of 1906—a report that marks an epoch in the teaching of midwifery in this country, because it marks the beginning of the era when clinical training in midwifery was no longer to be picked up casually on an extern district, with no other supervision than that of an inexperienced house officer. The driving force in London came from the universities of Oxford and Cambridge, which adopted the General Medical Council's recommendations en bloc and left the medical schools to find a way of making provision to meet them. The London University and Conjoint Board adopted only such of them as were not inconvenient to the medical schools of London. St. Thomas's, having a relatively high proportion of students from the older universities, determined to open a maternity ward for their clinical instruction. A ward of 21 lying-in beds with its necessary adjuncts was opened, making, with the gynæcological ward of 29 beds, 50 beds in all. With the addition of the extern district, providing at that time about 1500 deliveries per annum, and the out-patient department for diseases of women, the hospital was able to provide a three months' whole-time service—i.e., without other clinical work—for all its students. The first six weeks were spent in residence and in midwifery work; for four of these weeks the student learnt his clinical midwifery in the hospital, and for the other two weeks he applied the experience so gained in the houses of the district patients. The remaining period of seven weeks was devoted to in- and out-patient clerking in the gynæcological department. When not required in the maternity ward spare time was occupied by attendance at the various gynæcological clinics.[1]

This was the first maternity ward in a general hospital with a medical school of a capacity sufficient for the training of all its students. The annual number of deliveries was about 600. Though now general in the London schools it was the first combined training in midwifery and gynæcology through which all students passed. The department was increased as time went on by the addition of prematernity and infant clinics (the latter as part of the follow-up department of the midwifery patients), the details of which I need not go into. The department had reached a sufficient degree of development to be noticed and given a detailed description by the medical officer to the Local Government Board in his report for 1913–14 (page xxxi.).

THE SYSTEM NOW IN USE.

The 15 years' experience of having students working full time for three months in an "obstetric atmosphere" was a great education to those responsible for their training. It made all of us realise the enormous value of "atmosphere." As time went on and the department expanded our ideas expanded also. The "preventive atmosphere" became more dominant, and on this account our department in the post-war years came into closer contact with the children's department. Although encouraged to attend, the students paid little heed to the clinics for well babies, for they had no examination value. The pædiatrician, however, held a clinic once a week in the maternity ward, which was attended both by the obstetric clerks and by the clerks from the children's department. The students who had passed through our department were encouraged to proceed immediately to act as clinical clerks in the children's department. The next step was to amalgamate the two departments and thus increase the length of time spent in the "preventive atmosphere," and also the strength of "prevention" in it. This amalgamation had been the obvious step for some years, and, indeed, was adumbrated by me in papers read at the discussions on Medical Education at the Edinburgh Pathological Club in 1918[2] and at the Obstetrical and Gynæcological Section of the Royal Society of Medicine of London,[3] but it was not until 1925 that our scheme was placed before our medical school council and accepted. Under the scheme each student gives six months' whole-time service to the combined study of obstetrics, gynæcology, and pædiatrics. It has now been working long enough for some impression of its advantages and possibilities to be obtained. Roughly the six months' service is divided equally between obstetrics, gynæcology, and pædiatrics. Residence in the hostel and within call is now extended to two months, during which the student's time is portioned out between the antenatal clinics (four sessions a week), the clinics for well babies (two sessions a week), the practice of the maternity ward and attendance on intern cases for the first month, and extern cases for the second month. Four to six obstetric clerks are on duty at a time and take their maternity cases in pairs,

[1] Brit. Med. Jour., 1912, ii., 1106.
[2] Edin. Med. Jour., November, 1918, xxi., 286.
[3] Proc. Roy. Soc. of Med., Sect. Obst. and Gyn., 1919, xii., 49.

but a general call to all students in residence is issued for abnormal cases in the maternity ward. The second two months is occupied by clerking and dressing in the gynæcological department and the final two months in the clinics for well and sick children, clerking in the children's medical ward, with attendance at gynæcological out-patients on two sessions a week.

The advantages obtained by this combination have been very striking to those who have been teaching from the earlier stages in the evolution of the scheme, and it may make them clearer to others if the contrast is pictured between the primitive stage when maternity cases, gynæcological practice, and attendance in the children's department were taken as isolated events in the curriculum, often sandwiched in between other clinical work, and the system as outlined above. If the total length of time given by the student to obstetrics, gynæcology, and pædiatrics is not increased by one day, and these subjects are but linked up into a continuous period of service so as to serve as an object lesson in preventive medicine, the gain is enormous. I predict that a comprehensive scheme for the clinical teaching of these subjects in chronological order, starting with the care of the pregnant and parturient woman and the maintenance of the health of the mother through reproductive life, and including the child through its early developmental stages, will, wherever adopted, be recognised as a great advance.

THE "PREVENTIVE ATMOSPHERE."

The next point I would make is that the student's outlook over the world of medicine may further be widened by coöperation between the various teachers in gynæcology and pædiatrics in the direction of developing a new and special "atmosphere" in which the teaching is conducted. Such "atmosphere" must naturally depend on the individual characteristics of the teachers and the school; its development may be fostered by careful arrangement of the curriculum. The subject of study is represented as the hygiene and care of the reproductive cycle, with the double objective of lessening the price paid by the mothers in bearing and rearing the next generation and of lessening death and disability among the new stock. So far as can be the teaching is from the physiological side, with the degree of the normal attained through pregnancy, labour, and lying-in and the early developmental stages of the infant as the criterion of successful practice. The care of the mother is made the centre-point, for she is the executive in the nurture of her family.

The differentia of this form of training becomes clear to the student when he discovers that the patients in the clinics—mothers and infants—are healthy and not sick folk, and that his object now is to maintain this state of health by seeking out the causes of disorder or early intelligence of its beginning. In time he acquires the habit of mind that leads him to review all abnormalities in order to see why failure of prevention has occurred. The student is also encouraged to think in terms of the community and of the importance of the subjects of study to the health of the nation. Many occasions arise of pointing out to him the evil results to the young family of ill-health in the mother, and of ignorance, carelessness, and lack of foresight in the parents. In the gynæcological ward he sees instances of the failure to prevent injuries and infections during reproduction with their ill-effects on mother and family. Thus he learns to look beyond the individual patient and visualise the results of bad midwifery, of bad hygiene, and neglect on both generations. Where there is a social service department, instruction on this side before beginning attendance on district cases widens the student's field of vision and adds greatly to his interest in and understanding of his patients. Many an obstetric clerk has told me that the talk from the lady almoner was the most instructive hour in his medical studies. The opportunity should not be allowed to slip of making this time of attendance on patients in their own homes a means of filling up the serious gap in a medical education that is otherwise based wholly on patients seen within hospital walls and divorced from the conditions of their everyday life.

THE TEACHING OF MIDWIFERY.

So far my argument has been restricted to the development of the preventive bent of mind in the student, and the obvious criticism may be made that the paper so far has not yet touched on the actual teaching of midwifery. The equally obvious reply would be that midwifery is a branch of preventive medicine, and no teaching in it can be adequate unless conducted in the atmosphere of prevention and so as to produce the essential mental attitude. Is it not the lack of this attitude of mind that is the greatest failing of present-day midwifery? The need for it is being preached everywhere, and this paper is but a plea for its more intensive introduction into the training of the new entrants into the profession. We must get back to the primary aim of maintaining the natural processes throughout reproduction, and look on all interference with normal function or substitution for it as failure to secure our chief objective. Sound foundations for practice can only be laid in an atmosphere of prevention, and there is no fear of the atmosphere being made so thick that the primary duty of doing the best for the patient will not be clearly visible.

In teaching the practice of obstetrics and gynæcology the chief difficulty that faces the teacher is that of giving the student direct clinical experience of various complications of labour and obstetric manipulative procedures and of bimanual examination on sufficiently large numbers of patients with normal and abnormal pelvic organs.

The antenatal clinic with its fequent attendances of women in all stages of pregnancy affords almost unlimited opportunity for acquiring skill in abdominal diagnosis and external manipulation and of learning the supervision of pregnancy. I do not lay any stress on the desirability of the senior members of the staff teaching the management of normal labour. My personal opinion is that no one can do it better than a highly trained labour-room sister. The duty of the medical staff is to maintain a technique of high standard so that the student, after spending a month under its influence and witnessing and conducting labours as carried out according to the ordinary practice of the labour-room, will acquire a habit that he will carry with him through his future practice. For the abnormal cases, on the other hand, the constant presence of an experienced member of the staff is necessary, and that is undoubtedly a weak spot in our teaching. It will be generally accepted that the principle of a chef de clinique living in the hospital—such, for instance, as the Master of the Rotunda—is the most satisfactory system for large institutions, but few obstetrical and gynæcological departments of a general hospital can provide the material to justify such a policy. An experienced resident chief for large maternity hospitals (especially if amalgamated with the hospitals for women) is the ideal for the training of students. This arrangement was advocated by the Committee of the Obstetrical and Gynæcological Section of the Royal Society of Medicine in London that went into the question in 1919.[4] That committee, regarding the matter from the point of view of teaching, was strongly of opinion that the move of the London medical schools to form self-contained departments was a retrograde step, and that the Rotunda plan of a large combined maternity and gynæcological hospital with an experienced resident master and assistants was the best. The one thing in favour of the small unit within the large general hospital is that the resources, both in personnel and material, of the general hospital become available. I have served in a special maternity hospital and on a general hospital with a maternity ward, and have found the enormous advantages of the

[4] Proc. Roy. Soc. of Med., Sect. Obst. and Gyn., 1919, xii., 108.

laboratories with their skilled officers, the experienced personnel in all departments, and the additional resources for diagnosis and treatment that the general hospital affords and the special cannot provide.

The teaching of obstetrical manipulations must be largely carried out on the model, but should be kept in close relation with clinical midwifery—e.g., immediately after practice in the ward and on the district. The object of the teacher is to use the procedures the student has actually witnessed as the foundation and to build on them both the details of those manipulations he has seen and the whole procedure in those he has not seen.

The proper supervision of the student while attending labours and visiting patients on the district presents a somewhat difficult problem because someone more experienced than a temporary house officer is required. This duty should be assigned to an officer at least of the standing of a registrar or tutor and holding the post for two or three years.

The removal of acute puerperal infections and venereal infections from the immediate purview of the student makes it necessary to arrange special clinics elsewhere. These occasional visits help to fill in blanks in the student's experience, but cases demonstrated never make the same impression as those continuously under the observation of the clinical clerk. Constant thought is required to lessen the disadvantages of the specialisation and segregration both of methods of investigation and of cases by which they tend to be removed from the immediate observation of the student.

THE TEACHING OF GYNÆCOLOGY.

Gynæcology also has problems of its own. The material in hospital wards is far too largely made up of women admitted for operative treatment, and is in no way representative of the gynæcology of family practice. Diagnosis, both by abdominal and bimanual examination, can, however, be most readily acquired in the wards; the all-important point is that the out-patient department should be used to its fullest extent for teaching minor gynæcology and that a selection of minor cases for indoor treatment should be made. Gynæcology has to be taught almost wholly from the pathological side. Even we teachers suffer from lack of opportunity of examining the pelvic organs in women without signs or symptoms of disorder, and thus form an incorrect perspective. Attention must be concentrated on all injuries and diseases arising out of the exercise of the reproductive function and their causation and prophylaxis discussed fully, as well as the measures to be taken for their care or relief.

Neither the physiology of the reproductive processes nor the pathology of the reproductive tract receives much attention in the students' previous studies, and the opportunity should be taken to give this instruction during the time of service in the department. The more closely this teaching can be kept to the patients under observation the better. All pathological material should be demonstrated, naked eye and microscopic, as part of the clinical case and discussed from its clinical as well as its scientific aspects. In these demonstrations opportunity readily offers to show other and related conditions, so as to fill in what the student may not have seen clinically. Also normal material from abortions, placenta, &c., and the histology of the normal pelvic structures may be conveniently studied in comparison with morbid conditions.

THE ASSOCIATION OF OBSTETRICS WITH PÆDIATRICS.

A word or two may be said regarding the association of obstetrics with pædiatrics. The latter term has been used as connoting the study of the developing child from the physiological side, and pædiatrician or pædiatrist is adopted rather than "physician for the diseases of children" because it suggests the hygiene and management of the normal infant and prophylaxis as his primary study rather than the cure of the disorders and diseases of childhood. By bringing pædiatrics into close association with obstetrics, the area known to the public as "maternity and child welfare" is covered and provides a very sound apprenticeship for the student. Both are begun from the standpoint of physiology and have similar characteristics. Close coöperation with the pædiatrician is required, for the two subjects run together at times. The management of the mother, for instance, in all cases of difficulty with breast-feeding is reckoned as a problem in pædiatrics and not obstetrics. The much greater readiness with which the student takes to the study of the infant when it comes to him directly as part of the follow-up of his maternity work and as part of a scheme of preventive medicine has struck both obstetric and pædiatric teachers.

CONCLUSION.

My final point is to urge that if these subjects are combined into a consecutive study, and the benefit to the education of the student is set out in some such a way as I have attempted, a better case can be made for the granting of the necessary time or facilities. Midwifery is always described as playing Cinderella in the curriculum to her older and bigger sisters, medicine and surgery. For this neglect those professing midwifery are not altogether without blame, for they have not been very successful in playing the part of fairy godmother so as to display her charms and trick her out to be attractive. My experience in agitating for better facilities for clinical training and a larger share of the student's time has been that the more these wider aspects are stressed, and the more our teaching is described as that of the care of the reproductive cycle, of the mothers and of the rising generation, the stronger the appeal to our colleagues, lay or medical.

JAUNDICE IN RELATION TO SURGERY.

BY E. R. FLINT, F.R.C.S. ENG.,
ASSISTANT SURGEON, GENERAL INFIRMARY, LEEDS.

JAUNDICE is the term applied to the pigmentation of the tissues—clinically of the skin and conjunctivæ—caused by bile-pigment in the blood. The urine and fæces will show the presence or absence of bile according to the cause of the jaundice. The pigment is normally present in the blood in small quantities, a considerable excess (probably ten times the normal) being required before clinical jaundice appears; but before this limit is reached there is a condition of latent jaundice, cholæmia, which probably has considerable clinical significance.

The Formation of Bile-pigment.

The theory of the formation of bile-pigment is as follows:

Hæmoglobin is broken up into its two components, protein and hæmatin; the hæmatin undergoes a further change into an iron-containing moiety and an iron-free moiety hæmatoidin. The latter is nearly or quite identical with the bile-pigment bilirubin, and it is probably the source of this substance under normal conditions. It used to be held that the liver was essential for these changes, but Whipple and Hooper, and later Mann and others, have shown that bilirubin can be produced apart from the liver, and it is now generally believed that bile-pigment is formed by the reticulo-endothelial tissue of the body—a large part of which is situated in the spleen, bone-marrow, and liver—in the latter under the name of Kupffer's cells. That bilirubin can be formed by other organs than the liver receives additional evidence in hæmolytic jaundice, where removal of the spleen causes an immediate disappearance of the jaundice. The fate of bilirubin, once it is formed, is said to be this: It is passed through the polygonal cells of the liver and appears in the bile, probably changed in some way, and so into the intestine. Somewhere in the intestine it is reduced to urobilin by bacterial action, and this substance is reabsorbed in part and returned to the liver, where it is resynthesised into hæmoglobin by uniting with the iron-containing moiety which has been stored for this purpose.

Another view is that urobilin is formed in the liver; Whipple says there is no evidence of absorption of urobilin from the intestine. The urobilin unites in the liver with the iron-containing moiety to form hæmoglobin. Some of the bilirubin, of course, passes on into the bile. In support of this view the phenomena observed in hepatic cirrhosis are cited. Here there is excess of urobilin and urobilinogen in the urine, and it is held that the deficient liver function prevents the formation of hæmoglobin in the manner stated above. Urobilin passes on, then, into the hepatic veins and is excreted by the kidneys; as it does not take its full part in the forming of hæmoglobin, anæmia results.

Causes of Jaundice.

McNee states jaundice may arise for the following reasons:—

1. Bile-pigment, formed in the cells of the reticulo-endothelial system, passes through the polygonal cells normally to reach the bile capillaries, but is obstructed there and finally reabsorbed into the blood.
2. Owing to damage to the polygonal cells of the liver, the bile-pigment carried to them by the endothelial cells is unable to enter them. The bile-pigment would, therefore, pass directly along the hepatic venous radicles into the general circulation. On the other hand, part of the bilirubin might pass through, and part be unable to do so.
3. In excessive blood destruction too much bilirubin is formed in the reticulo-endothelial tissue for the polygonal cells to deal with. In such circumstances some pigment might pass normally into the bile capillaries and colour the fæces, while the excess might pass straight through the hepatic veins into the general circulation and bring about jaundice.
4. In addition to damage and disordered function of the polygonal cells, there is obstruction in the bile-ducts—for example, cholangitis. In such circumstances some pigment might pass directly into the hepatic veins and so into the general circulation, and some through the polygonal cells, to be afterwards reabsorbed on account of the obstruction.

Clinical Classification of Jaundice.

McNee classifies clinical jaundice into three groups: (1) Obstructive hepatic jaundice; (2) toxic and infective hepatic jaundice; (3) hæmolytic jaundice.

Van den Bergh's test has been of great help in elucidating problems connected with jaundice. When jaundice is due purely to complete obstruction of the bile-ducts the direct reaction appears with this test. When jaundice is due entirely to the hæmolytic type van den Bergh's test gives an indirect reaction. Therefore, between these two the test gives a definite method of distinction. But when the jaundice is due to incomplete obstruction, and in the toxic and infective forms, a biphasic reaction is seen, which probably indicates a combination of the first two types of jaundice in varying degrees, and therefore yields no definite information from a diagnostic point of view. Moreover, this mixed type of jaundice is the most common variety. Van den Bergh's test brings out some other interesting points; it shows clearly that there is a condition of latent jaundice, that is to say, there is excess of bile-pigment in the blood, but no clinical sign of jaundice. This occurs in cirrhosis of the liver, and so the test gives valuable help in surgical considerations of the gall-bladder and bile-ducts, for it is now beginning to be recognised that hepatitis, of more or less severity, is often present with gall-stones, &c. Again, in hæmolytic jaundice there is often a degree of cholæmia much above that which the kidneys would allow if it were due to biliary obstruction, which suggests that in the latter type there is something irritating to the kidneys lowering the threshold; indeed, in obstructive jaundice it is not uncommon to find albuminuria, and it is quite possible that the bile-salts are the irritating agents, as, of course, these do not get through into the blood in hæmolytic jaundice. Van den Bergh's test shows that bilirubin is increased in the blood in pernicious anæmia, but not to such an extent that the threshold value of the kidney for bile-pigment is reached, and biliuria results. In secondary anæmias, on the other hand—for example in malignant disease—there is no increase of bile-pigment in the blood.

Besides the different reactions to van den Bergh's test given by the sera in mechanical biliary obstruction, and in hæmolytic jaundice cases, there are many clinical differences, which can be readily seen in the following table:—

—	Obstructive jaundice.	Hæmolytic jaundice.
Pruritus	Present.	Absent.
Urine	Bile stained.	Bile absent.
Fæces	Pale	Normal.
Bile-salts in blood	Present.	Absent.
Pulse	Usually much slowed.	About normal; fast during crises.
Spleen	Not palpable.	Usually much enlarged.
Wasting	Rapid.	Weight maintained.
Red blood corpuscles	Increased resistance.	Increased fragility.

Some of these differences are undoubtedly due to the passing of large quantities of bile-salts into the blood. The bile acids are a combination of cholic acid and amino-acid, of which there are two—glycine and taurin. Glycocholic acid is the one found in largest quantity in human bile. The bile acids occur in bile as sodium salts soluble in water. It is suggested that cholic acid is formed from cholesterol, and that a high cholesterol blood content is evidence of faulty liver function in the formation of bile salts.

It is usually held that the slowing of the pulse in obstructive jaundice is due to the presence in the blood of bile salts. I think there can be no doubt pruritus is also. This torturing symptom is only present in the obstructive type of jaundice, and then only in the earlier stages; with complete obstruction it is said the secretion of bile-salts ceases and pruritus passes off, even while jaundice persists as deeply as ever. I have noticed this over and over again in malignant obstruction of the bile-ducts.

Tests of Nitrogenous and Glycogenic Functions of the Liver.

Though Van den Bergh's test has given such interesting information about bile formation, and provides great help in diagnosis, it does not tell us enough about the most important liver functions—viz., the nitrogenous and glycogenic, and from the point of view of surgery it is essential we should have some knowledge of the liver in these capacities. Unfortunately we have no absolutely infallible tests of these functions, though there are two which give information of some practical value; these are the dye test and the lævulose test.

Dye test.—After injecting phenoltetrachlorphthalein intravenously, all but 3 per cent. is eliminated from the blood by the liver in 15 minutes or so; if the liver is diseased there is retention in proportion to the liver inefficiency.

Lævulose test.—This depends on the fact that when the liver is intact lævulose will not raise the blood-sugar concentration, whereas the ordinary sugars will; in patients suffering from definite lesions of the liver the lævulose acts more or less like glucose, and causes a marked increase in blood-sugar concentration. As to the relation of the lævulose test to the degree of hepatitis often associated with gall-stone conditions, I am at present carrying out some investigations which I hope to publish later. The experiments are not sufficiently advanced at the moment.

Before either of these tests give positive results there must be considerable changes, because probably only a part of the liver is called into action at any one moment, moreover the organ has an extraordinary capacity for regeneration and hyperplasia on demand. However, so long as this regeneration and hyperplasia are sufficient to prevent any pronounced positive evidence of hepatic deficiency by the dye or lævulose tests it is probably sound enough for surgical purposes.

The de-aminisation of amino-acids is one of the important functions of the liver, and if it is not performing this efficiently there will be a decrease in blood-urea and an increase in the pre-urea bodies. Of course, in this respect the kidney function must be considered, as deficient elimination of urea will ultimately cause an increased blood-urea even though the output from

the liver is deficient. So far as the kidneys are concerned it may be said that if there is no increase of blood-urea, and the result of the urea concentration is satisfactory, the renal condition, in spite of the presence of albuminuria, casts, &c., does not contra-indicate operation.

Another important function of the liver is the detoxication of poisons and destruction of bacteria; of the efficiency of this function we have no laboratory measurement.

Value of Liver Tests to the Surgeon.

From the surgical point of view the van den Bergh test is of more use at present than any other. The patient's condition can usually be determined quite accurately enough for surgical purposes by clinical observations alone, but there are times when this test and the clinical manifestations do not agree, and this applies particularly to the condition of latent jaundice. In this there are no outward indications of jaundice, but the test shows high bilirubin values in the blood, though it is not established what degree of general hepatic insufficiency the defective bilirubin excretion indicates, there seems to be no doubt that in many cases of obstructive jaundice the polygonal cells are seriously damaged, so that a positive van den Bergh test may be regarded as giving presumptive evidence in latent jaundice of hepatic deficiency which is not manifest to ordinary clinical methods.

The importance of this revealed cholæmic state lies in the warning it gives as to the desirability, and occasionally the absolute necessity, for delaying operative procedures until certain measures have been taken to lessen the risks of operation, especially as regards postoperative hæmorrhage and hepatic failure. It is well known that patients with obstructive jaundice show an extraordinary propensity to capillary bleeding after operation. This is due to deficient calcium content of the blood. It is supposed that the toxic bile-pigment and salts are seized upon by the available calcium in order to reduce this toxicity, and so the calcium necessary to the process of coagulation is lost. Perhaps this is additional evidence of the change which bilirubin is supposed to undergo in passing through the liver cells, because this postoperative hæmorrhage is characteristic of obstructive cholæmia, although there is a great deal of bilirubin in the blood of the hæmolytic jaundice cases. The tendency to bleed may be due to some other cause than the bile-salts or pigment; anyway the indication is clear that more calcium is needed before operation; 10 per cent. calcium chloride in 5 c.cm. doses intravenously on three consecutive days will usually reduce the coagulation time to normal or thereabouts. One constant feature about these injections is the complaint by the patients that they experience at once an unpleasant feeling of heat all over the body. On several occasions I have taken the temperature whilst injecting the calcium and have found that, though normal before, it goes up during the sensation of heat to as much as 101° in some cases and rapidly comes back to normal. If the coagulation time still remains long after a course of calcium injections blood transfusion will often be found to reduce it temporarily—sufficiently long to enable operative procedures to be carried out successfully.

It is not uncommon to find a patient who has had a stone removed from the common duct, when there was no jaundice, react in a similar way as regards the tendency to bleed, as a jaundiced patient does. The van den Bergh test will show in these patients a state of cholæmia, and will be an indication for giving calcium before operation. The value of this preoperative preparation cannot be overstated. There is another practical point brought out by the van den Bergh test in jaundiced patients; it is possible to estimate whether the bile-pigment content of the blood is increasing or diminishing. If it is increasing the risks of operation are also increased, and there should be a postponement of the operation, if other considerations justify this; on the other hand, with decreasing values, operation may be performed with a risk little greater than when there is no jaundice at all.

Value of Glucose before Operation.

As regards hepatic deficiency, it has been shown that glucose has great value in protecting the liver cell from harmful agents, and as it is impossible to tell what is the precise state of these cells, glucose should be given as a routine. It may be given in unlimited quantities by mouth or in 5 per cent. solution by rectum, or in 3 per cent. solution in saline subcutaneously.

Glucose is not only used directly by the tissues, but it fulfils a very important function in maintaining the efficient combustion of fats. With insufficient glucose for this function the higher fatty acids do not undergo complete combustion and a state of acidosis develops. Constant vomiting and consequent starvation prevent an adequate supply of glucose, and the ill-effects are aggravated when the liver is not functioning properly. It may take weeks of careful treatment to bring these patients up to the state in which they can be considered reasonably fit for operation, and even then they will sometimes develop postoperative acidosis, especially after the use of chloroform. For this condition 10 per cent. glucose intravenously, controlled by insulin, sometimes works wonders. Chloroform should never be used. Whether chloroform produces its ill-effects directly on the liver, or on the tissues generally does not appear to be conclusively decided, but of its danger as an anæsthetic there is no doubt and especially when there is a pre-existing liability to acidosis. Gas, oxygen, and carbon dioxide is the ideal anæsthetic; and if anything more is required, as it usually is when stitching up the abdomen, the minimum of ether should be added.

Value of Water before Operation.

Another factor of the greatest importance before and after operation is water. Drabkin and Edwards have shown that in the hypoglycæmia due to insulin there is a shortage of water in the blood. Walters, Bolton, and Kligore have shown experimentally on dogs the value of water in preventing terminal renal insufficiency, which is very apt to occur along with hepatic deficiency. In their experiments not only did the urea progressively increase in the blood, but there was a fall in chlorides and an increase in alkalinity of the blood. When water and chlorides—especially water—were injected the blood-urea dropped.

Surgery in Various Forms of Jaundice.

For the type of jaundice which McNee in his classification includes under the heading toxic and infective jaundice surgery has as yet not been able to accomplish much. It cannot be relieved by operation on the distal side of the polygonal cells, but there is some hope that it may be in some early cases by tackling on the proximal side the focus from which the infecting agent is being delivered to the liver. In hæmolytic jaundice removal of the spleen gives beneficial results almost as good as in any other field of surgery.

With regard to obstructive jaundice the most helpful symptom in differential diagnosis is pain—real pain as distinguished from discomfort. Painful jaundice is virtually always due to stone; painless jaundice very seldom is, and in the former case the stone is almost always in the common duct; on the other hand, a stone in the common duct does not always give rise to clinical jaundice.

The surgical treatment of jaundice due to stone is the removal of the stone or stones and drainage of the common duct. As the gall-bladder is always diseased as well, it requires treatment, and in the presence of deep jaundice it is a surgical maxim, to which there are few exceptions, never to remove the gall-bladder, but to drain it and leave removal for another occasion. This is partly for the reason that cholecystectomy is accompanied by a much greater risk of postoperative hæmorrhage and partly because the rule should be to do the least that is compatible with efficient liver drainage in these

patients, who frequently have hepatic deficiency as well. The completely obstructed common duct will often be filled with "white bile"; this is a convenient term, but an inaccurate one, as the fluid contains neither bile-salts nor pigment, being the clear secretion from the cells lining the ducts. After inserting a tube in the common duct ordinary bile begins to flow again quickly as a rule; sometimes it fails to appear, and the patient dies. On other occasions normal coloured bile flows for a few days and then begins to get less and less pigmented, and the patient becomes progressively weaker, lethargic with a subnormal temperature, and usually vomits all that is taken by mouth. Jaundice does not as a rule deepen or appear if it was absent before. These patients always die in a few days as a result of this hepatic failure. Though it mostly happens after the relief of a complete obstruction, in much the same way as urinary secretion may fail after the removal of an obstructing prostate, yet I have seen patients fade out like this occasionally after cholecystectomy where there was no obstruction by stone in the common duct.

It is this kind of delayed biliary failure that preoperative treatment will do much to prevent, and the van den Bergh test will often prove useful in informing us of the threatening failure, and indicate the necessity for delaying operation until the patient has been brought into a safer condition.

As regards painless jaundice of the obstructive kind, the commonest causes are chronic pancreatitis, carcinoma of the pancreas, or more rarely of the bile-ducts, and pressure on the ducts from enlarged glands in the portal fissure. Nothing can be done for the latter. But undoubtedly for malignant disease which is causing a greatly distended common duct an anastomosis between the gall-bladder and the stomach or duodenum gives great relief. Pruritus, if present, disappears, though in my experience the stage in which itching is so troublesome is in the first few weeks, and frequently is passing away or has gone before the question of operation is put to the patient. Early operations in malignant obstruction of the common duct would save the patient much distress, for whilst pruritus exists it is a most torturing symptom. The liver is relieved of a great embarrassment after an anastomosis has been performed, the patient lives longer, and in greater comfort physically and mentally, for the disappearance of the jaundice leads him to believe that he has been cured of his complaint.

Chronic pancreatitis, when associated with jaundice, may be an instance of the painful or painless type. In the former case it is usually dependent on a stone in the ampulla, and the treatment is the same as that for stone without an accompanying pancreatitis. In the latter case, in the absence of any determinable cause—e.g., syphilis, arterio-sclerosis, &c.—it is usual to remove the gall-bladder on the assumption that this organ has infected the pancreas. The evidence of this is anything but conclusive; the gall-bladder may be greatly distended, which would be unlikely if it were in a state of chronic inflammation, and in these cases I believe the pancreas would recover whether the gall-bladder were removed or not. In view of the usual state of affairs—namely, that the liver is involved along with the pancreas, and the gall-bladder may or may not be—it is more reasonable to suppose they have all been infected from a common site, and that there is no reason, therefore, to remove the gall-bladder unless it shows unmistakable signs of disease. Prolonged drainage of the gall-bladder is not good surgery, in my opinion, for chronic pancreatitis; infection undoubtedly creeps in after this operation, and later the gall-bladder may have to be removed. The recurrence of symptoms after the biliary fistula has closed has been interpreted as a return of the pancreatic symptoms, whereas it is really due to the imposition of another complaint.

Jaundice coming on after operation, in the absence of an overlooked stone, is due to infection spread at the time of operation or to injury to the ducts. In either case it is painless. The ducts would never be injured if the surgeon took the trouble to see all the important structures before clamping anything. A tedious and often severe operation will be necessary to rectify the mistake.

Surgical Risks Run by a Jaundiced Patient.

It will be seen that the chief risks run by a jaundiced patient are hæmorrhage, hepatic and renal insufficiency, as well as those attached to unsuitable and improperly conducted operations. The clinical manifestations exhibited by the patient, together with the evidence furnished by the various tests, especially van den Bergh's, will enable the surgeon to gauge with considerable accuracy the physical state of his patient, and he can then improve it by the several pre-operative measures indicated. Good judgment, gentleness, and an accurate knowledge of what is being done during the operation will add to the safety of the patient, when the operation is conducted under the least dangerous anæsthetic. Operations on the bile-ducts are undoubtedly the most difficult of abdominal operations, and when the patient is deeply jaundiced they are the most risky; there is all the more reason, therefore, to do everything possible to reduce the risks. There is another danger—namely, pulmonary complications. In so far as these depend upon the renal and hepatic deficiency much has been done to eliminate them, but there appears to be other factors concerned, which at present we do not understand.

THE MORTALITY FROM HÆMATEMESIS.

AN ANALYSIS OF 526 CASES.

BY ERNEST BULMER, M.D., M.R.C.P. EDIN. AND LOND.,
ASSISTANT PHYSICIAN, GENERAL HOSPITAL, BIRMINGHAM.

THE results of this investigation act as confirmatory evidence of the writer's previous experience: that is that hæmatemesis in general is a grave condition with a much higher mortality than is usually admitted, and that the optimistic prognosis often given in cases of bleeding gastric and duodenal ulcers is not borne out by the facts that have been collected.

A systematic search of the records of the medical side of the General Hospital, Birmingham, was made for all cases admitted on account of hæmatemesis of a severe nature, and in a period of 24½ years between the beginning of 1902 and the end of July, 1926, 526 cases were discovered. Out of the 67 fatal cases post-mortem records were available in 53 cases.

In the following table the cases are divided into their several groups:—

Disease.	Total cases.	Deaths.	Autopsies.
Acute ulcers	218	19	15
Chronic ulcers	249	29	23
Cirrhosis of liver	25	8	7
Cancer of stomach ..	7	6	4
Portal thrombosis ..	1	1	1
Melæna neonatorum ..	2	1	1
Doubtful cases	24	3	2

Acute Ulcers.

It was found very difficult to separate the acute gastric and the acute duodenal ulcers; using the presence of the pyloric syndrome as the criterion of the duodenal ulcer it was found that out of the 199 cases that recovered only two had a history of duodenal ulcer. In the fatal cases the task was simpler, and of the 15 on whom autopsies had been performed 13 were gastric ulcers, one was a pyloric ulcer, and one was a duodenal ulcer. Of the four fatal cases without a post-mortem examination two had histories suggesting duodenal ulcers.

Mortality in the Acute Ulcers.—Excluding one case in which death was due to perforation of the ulcer

into the lesser sac there remain 18 deaths out of a total of 218 patients; of the 71 males 12 died—a percentage of 16·9; of the 147 female cases 6 died—a percentage of 3·1. In the 19 fatal cases post-mortem examinations were performed in 15 with the following results:—

Death from hæmorrhage	12 cases.
" " septic parotitis and septicæmia	1 case.
" " perforation into the lesser sac	1 "
" " cerebral thrombosis and anæmia	1 "

The cause of death in the four fatal cases who did not have an autopsy performed was hæmorrhage in each; thus in the whole series 16 died of hæmorrhage, one from septicæmia and parotitis, and one from cerebral thrombosis due to anæmia. The remaining case died from another complication of the ulcer.

Site of the Ulcers.

Lesser curvature	10 cases.	Pylorus	1 case.
Greater "	1 case.	Duodenum	1 "
Cardia	1 "	Petechial hæmorrhages at fundus	1 "

Severity of the Bleeding.—In order to give some idea of the type of cases that have been included in this analysis they have been divided into groups according to their severity, and it will be seen that the vast majority of the cases were admitted for a severe hæmatemesis. For the sake of convenience they have been further subdivided in this table into cases admitted in their first attack of hæmorrhage and those who had had previous attacks.

	First attack.	Recurrent attacks.
(*a*) Fatal cases	18	1
(*b*) Very severe*	22	2
(*c*) Severe	111	18
(*d*) Moderately severe	18	1

* Collapsed on admission.

The fatal cases were recruited, with one exception, from patients in their first attack.

Age- and Sex-incidence with the Mortality.—Chart 1 shows clearly the great difference in the age-incidence in the two sexes—the majority of the female cases occurred between the ages of 16 and 30 years, but the distribution of the male cases was fairly constant in the quinquennial periods between 16 and 55 years, with a slightly greater incidence, however, in the period of the highest female incidence. The greater mortality in the male cases is well shown.

Sex and Mortality Distribution in Two-Yearly Periods, 1902–1925.—It will be seen from Chart 2 that the female cases are on the whole tending to diminish in number, and that the deaths have been sporadic; the male cases, on the other hand, have tended to increase in number, and the mortality has been fairly constant, with a tendency to increase within the last two-yearly period.

Treatment.—It has not been considered necessary to enter into an analysis of the treatment of this series, as they were all treated according to the accepted methods of the day, and after a careful consideration of the fatal cases it was found impossible to determine any departure from the routine methods in their case.

Chronic Ulcers.

The chronic ulcers will be dealt with under the same subdivisions as the acute ones in order that ease of comparison may be obtained.

Division into Gastric and Duodenal Ulcers.—Out of the 220 cases that recovered 14 had a history of duodenal ulcer, and of the 29 fatal cases in 23 an autopsy was performed—16 were gastric ulcers, five were pyloric ulcers, one was a duodenal ulcer, and in the remaining case there were coexisting gastric and duodenal ulcers. In the six fatal cases without autopsies the history of one suggested a duodenal ulcer.

Mortality.—Out of a total of 249 cases there were 29 deaths—a percentage of 11·6; of the 89 males 15 died—a mortality of 16·8 per cent.; of the 160 females 14 died—a mortality of 8·7 per cent. In the 29 fatal cases autopsies were performed in 23 with the following results:—

Death from hæmorrhage	20 cases.
" " perforation into the portal vein and suppurative pylephlebitis	1 case.
" " gastro-enterostomy done to check the bleeding	2 cases.

The cause of death in the six fatal cases who did not have an autopsy performed was hæmorrhage in five cases and terminal broncho-pneumonia in one case.

Site of the Ulcers.

Lesser curvature	16 cases.
Lesser curve and duodenum	1 case.
Duodenum	1 "
Pylorus	5 cases.

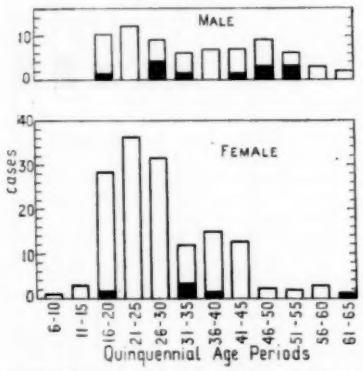
Severity of the Bleeding.—The cases have been classified according to the severity of the bleeding, but it was not considered necessary to divide them as to first attacks and recurrent attacks, as in the case of the acute ulcers. Out of the 29 fatal cases 7 had had severe hæmatemesis before the attack for which they were admitted.

(*a*) Fatal	29 cases.
(*b*) Very severe (collapsed on admission)	31 "
(*c*) Severe	148 "
(*d*) Moderately severe	41 "

Age- and Sex-incidence with the Mortality.—Chart 3 shows the difference in the age-incidence in the two sexes, but not to such an extent as occurs in the acute ulcers; there is a striking difference in the mortality, and the rise in the male death-rate at the later age-periods is well shown.

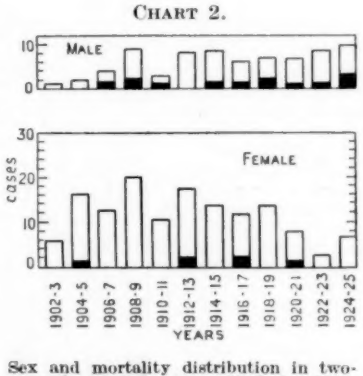
Sex and Mortality Distribution in Two-Yearly Periods, 1902–26.—Chart 4 shows very much what was brought out in the corresponding table for the acute ulcers—namely, that the female cases have

CHART 1.



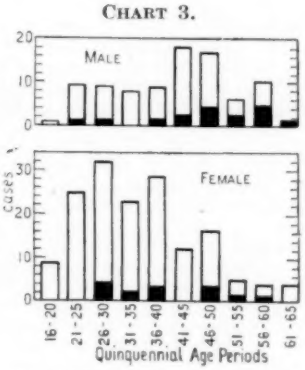
Age- and sex-incidence with the mortality in acute ulcers. (Deaths in black in Charts 1 to 6.)

CHART 2.



Sex and mortality distribution in two-yearly periods from 1902 to 1925. Acute ulcers.

CHART 3.



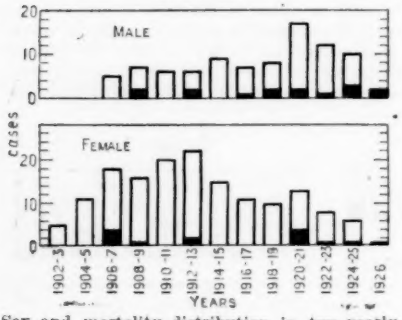
Age- and sex-incidence with the mortality in chronic ulcers.

shown a tendency to decrease in number, while the male cases have displayed the opposite tendency, and their mortality has been greater in the later periods. In the incomplete year 1926 all the cases of chronic ulcer treated ended fatally.

Acute and Chronic Ulcers.

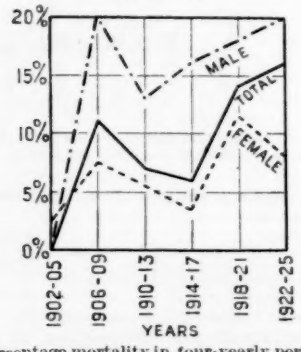
It is instructive to consider the acute and chronic ulcers together for some purposes. In Chart 5 the number of fatal cases and of total cases has been plotted together, and an increase in the mortality since the end of 1917 was discovered. Chart 6 shows the total number of acute and chronic ulcers divided into male and female cases with their respective mortalities over the same period, and in Chart 7 the total, the male and the female percentage mortalities have been plotted in order to show how the increased death-rate has been distributed. In all of these charts the number of cases has been reckoned over four-yearly periods.

CHART 4.



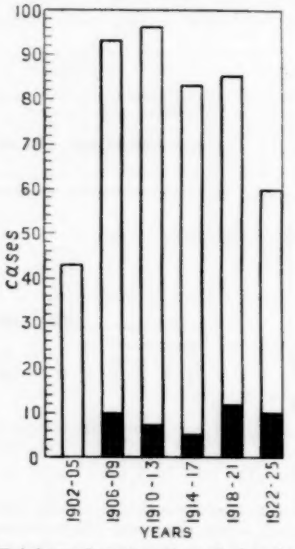
Sex and mortality distribution in two-yearly periods from 1902 to 1926 (July). Chronic ulcers.

CHART 7.



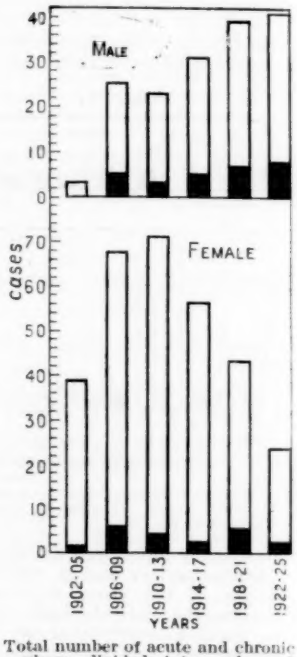
Percentage mortality in four-yearly periods from 1902 to 1925. Total, male, and female.

CHART 5.



Total number of acute and chronic ulcers with the mortality in four-yearly periods from 1902 to 1925.

CHART 6.



Total number of acute and chronic ulcers divided into male and female cases in four-yearly periods from 1902 to 1925.

Operations upon Acute and Chronic Ulcers.

The question of operations was considered under two headings, those performed as a method of treatment of the hæmatemesis, and those which were performed upon a patient who, at a later date, developed a hæmatemesis. The operative history of the series is set out below :—

(*a*) *Acute Ulcers.*—Two cases were operated upon ; in one this was done in convalescence and nothing was found except some adhesions between the duodenum and the gall-bladder. In the second case a gastro-enterostomy was performed with a Murphy's button as treatment for the bleeding, and the patient recovered.

(*b*) *Chronic Ulcers.*—In 12 cases who had had a gastro-enterostomy done for a gastric or duodenal ulcer some time previously a hæmatemesis occurred (not as a post-operative complication) and two of them died. At the autopsy the ulcers were found to be unhealed.

Five cases had had an appendicectomy done some time before, and one of them died of hæmatemesis.

Three cases had a gastro-enterostomy done as a method of treatment of the bleeding, and two of them died.

Three cases had a gastro-enterostomy done during convalescence.

Cirrhosis of the Liver.

Twenty-five cases of cirrhosis of the liver were admitted with profuse hæmatemesis and 8 of them died ; in 1 case there was no autopsy, and in the remaining 7 cases the source of bleeding was a ruptured œsophageal varix in 5, and it could not be found in the remaining 2 cases.

Cancer of the Stomach.

Out of seven cases admitted with profuse hæmatemesis six died and in four of them autopsies were performed. The causes of death were as follows :—

Eroded pancreatic vessel	2 cases.
„ splenic artery	1 case.
Oozing from eroded splenic pulp	1 „

Portal Thrombosis.

The patient was admitted unconscious as an acute gastric ulcer, and died in a few hours. The post-mortem examination showed a portal thrombosis with no discoverable cause.

Doubtful Cases.

Twenty-four cases had to be included in this group :—

No case notes	10 cases.
? Cirrhosis	3 „
? Carcinoma	3 „
No diagnosis was made	2 „
? Banti's disease	2 „
? Purpura hæmorrhagica	1 case.
Death from hæmatemesis with no post-mortem	1 „
Death from hæmatemesis in a case of renal infantilism—no source of bleeding at post-mortem	1 „
Death from hæmatemesis—post-mortem ? leukæmia	1 „

Melæna Neonatorum.

There were two cases of this condition, one was before the introduction of the modern treatment, and it died; the autopsy revealed no source of bleeding. The other was successfully treated by the intramuscular injection of the paternal blood.

Causes of the Increasing Mortality.

The causes of the increased mortality from acute and chronic ulcers are not at first sight obvious; Chart 7 shows that the total mortality has been rising since the end of 1917, but the rise has been better sustained among the male cases; the type of case has not altered materially during this period as it does not include the cases of hæmatemesis in young females of the type met with at the beginning of the century in association with chlorosis. The sex distribution of the cases has, however, altered in so far as the number of male cases with their higher mortality has risen and the number of the less fatal female cases has fallen. This will account to some extent for the rise in the total mortality, but the rise in the male mortality still remains to be accounted for.

Many explanations were considered such as the alteration in the severity of the cases reaching hospital with the improved methods of motor transport; it seemed to be a reasonable supposition that cases of such severity as in the old days would have been allowed to die comfortably at home are at the present time entrusted to a fast motor ambulance with a good prospect of arriving at hospital before a fatal issue has occurred. An analysis of the statistics from this point of view gave some confirmation to this hypothesis, as out of ten cases who died a few hours after admission—having been admitted unconscious—six occurred in the eight years between 1918 and 1925.

Whether any alteration in the method of treatment can be incriminated is a point of some importance, and one which will not be readily admitted by the majority of physicians. It is certain, however, that the amount of morphine given latterly has been greatly in excess of that used 20 years ago when a certain amount of caution in its use was advised. Morphine, as far as a study of the treatment sheets can be regarded as reliable testimony, was given at the outset to relieve pain, but the dose was small and not often repeated; the contrast with present-day methods is striking, and in no other method of treatment adopted has the change in usage been so noteworthy. The advisability of using morphine in large doses must, therefore, be questioned.

Summary.

1. An analysis of over 500 cases of severe hæmatemesis is presented with post-mortem reports upon 53 of the 67 fatal cases.

2. The mortality from acute gastric ulcer was 8·3 per cent.; in the males it was 16·0 per cent.; in the females it was 8·7 per cent.

3. The mortality in the chronic ulcers was 11·6 per cent.; in the males it was 16·8 per cent.; in the females it was 8·7 per cent.

4. The mortality from bleeding ulcers has risen during the last eight years, and some of the causes for this are discussed, with a plea for moderation in the use of morphine.

5. The cases of hæmatemesis other than in acute and chronic ulcers are tabulated, consisting of hepatic cirrhosis, carcinoma of the stomach, melæna neonatorum, portal thrombosis, &c.

6. Attention must be drawn to the fact that the mortality is much higher than the accepted one of 1 to 6 per cent.

In conclusion the writer must express his thanks to the members of the honorary medical staff of the General Hospital, Birmingham, for allowing him to publish the cases.

THE PREVENTION OF PYORRHŒA.

BY F. D. DONOVAN, L.D.S. R.C.S.,
SURGEON DENTIST TO THE ROYAL HOUSEHOLD.

THE cure of pyorrhœa has occupied the minds of most of the thinking dental and medical men during this last quarter of a century. The progression of the disease and the realisation of its possible consequences have led to much mental effort being bestowed upon it. The treatments are many, by quacks and scientists, hopeful and unhopeful, mostly expensive, and the cures are all doubtful. Efforts of the dentist, scaling, mouth-washing, home cleansing, and treatment in many cases do nothing but put off for a few years the inevitable result. Most dental practitioners have seen cases in early life, which they realise, if they are honest with themselves and their patients, must become before 40, cases of intractable pyorrhœa.

In acute stages much can be done to put off the inevitable extractions; but it is the slow chronic case, with apparently no cause, that resists all treatment, if we exclude the temporary improvement which follows local treatment, scaling, polishing and syringing, or a rise in the health index.

This pyorrhœa is universal and seems to attack all classes. The chronic cases are often more evident in those who take most care of their teeth—i.e., those who clean their mouths three or four times a day. At one time I was convinced that at the root of this chronic gum disease was the tooth powder or tooth paste, and I worked for some considerable time to find a source of common irritation which prepared the ground for future diseases. I looked for something which would so constantly irritate the mouth that it would reduce the membranes to a state of low resistance, so that the activating cause would have no difficulty in operating when it came along. At times I thought I was on the right track, only to find a series of patients who upset all my ideas and theories by having perfectly healthy mouths.

There is only one constant feature in all cases of chronic gum irritation. It is an article which is used by practically everybody in this country, and practically everybody amongst so-called western civilisation—I refer to the tooth-brush.

The Septic Tooth-Brush.

I am quite prepared to affirm that there is no tooth-brush, or there are very few tooth-brushes in the world to-day, that are not septic. I have examined very many, my own included. In point of fact I started with my own, taking a few bristles out and examining them bacteriologically myself. I was surprised to find my own tooth-brushes septic. Believing that the easiest person to carry out experiments on is oneself, I threw them away and bought some more. These were sterilised and examined, and found to be clean. They were then used in the ordinary way, with ordinary tooth-paste. They were washed, dipped in a mild mouth-wash, and put in the rack. Before the next tooth-brushing, some 12 hours later, they were examined again—still septic. This was repeated using different pastes and mouth-washes, &c. The brushes were also hung in the sun outside the window before being put in the so-called antiseptic cases supplied by the manufacturers. The result was invariably the same. I extended these examinations on many men living in the same club as myself. The net result was again the same.

My method of examination was to take, in the first place, a few bristles. If they were found to be septic that was quite enough. If they were clean, more were taken. I found that when examining the tooth-brush after 12 hours' rest—that is, before the second using—every bristle was septic. But when the tooth-brush was examined immediately after using, great bunches of bristles were found to be clean; so that I might safely say that immediately

after use the tooth-brush was slightly septic, but after 12 hours in the rack or case it was strongly septic. In reality, the infection was being incubated in the case for 12 hours.

Summary of Bacteriological Examinations.

Brushes examined, 500 ..	All these in common use.
,, ,, 150 ..	All septic in varying degrees. Streptococcus isolated from 144.
Sterilised and examined, 40 ..	All clean.
Same brushes as above (40) examined immediately after use	Streptococcus found in few of the bristles in each brush. Many bristles quite clean. Patients were a mixed lot taken from ordinary practice.
Forty new brushes. Sterilised and used by same patients as above. The brushes were allowed to stand in rack after being used and washed in the ordinary way	All found to be septic in varying degrees. Streptococcus isolated from 37 of the 40.
Forty brushes used by same patients in the ordinary manner and immediately placed in some disinfectant (any ordinary one)	After 12 hours 36 were found to be clean, while four were slightly septic. Pyorrhœa alveolaris cases already.

Mechanism of Infection.

The infected tooth-brush is covered with what is, at the best, a mild antiseptic paste, and applied to the mouth. The infection from the mouth is incubated and then rubbed on the gums and spread over the mouth. Not content with this, scratches are made in the gums so that the infection takes even a better hold. With the average person this is done twice a day for a period extending over many years. It is started on the great day when baby first has a tooth-brush. It is common knowledge that while there are bacteria in the mouth they are to all intents on the surface of the body. Where scratches are made, infection is let in. The infection is encouraged, and at the age of 23 or 24 the gums are not what they should be. This fact is pointed out to the dentist, who polishes up the teeth, paints them with iodine, and tells the patient to use some mouthwash, and temporary improvement occurs. This slowly goes on until the inevitable pyorrhœa has begun, with its consequent terrors of treatment, if any, and same ultimate result—full upper and lower cases.

The Remedy.

I have made a series of tests with my own tooth-brush with a view to eradicating this trouble. I found that placing a tooth-brush in an antiseptic for four or five minutes after use did not interrupt the incubation of the bacteria; and it certainly did not render the brush sterile. I have, therefore, come to the conclusion that there is nothing for it but to leave the brush immersed in a fairly strong antiseptic the whole of the time it is not in use.

I have put a sterile brush after use in 1–20 carbolic, and have continued to use it without it becoming infected. This is very hard on the brush, but a very good thing for the tooth-brush manufacturers. The only tooth-brush that will not become slimy with constant immersion in fluid must be made of a much stiffer and thicker material than those that are generally used to-day.

The prevention of much gum trouble lies in the non-use of septic brushes. As tooth-brushes have become a necessity in modern life, great care must be taken to see that they are kept clean in the manner stated. I do not suggest that septic tooth-brushes are the activating cause of pyorrhœa alveolaris, but I do suggest most strongly, that once the public realise this danger and deal with it, the number of cases of pyorrhœa will diminish to the small percentage that existed before the use of tooth-brushes became so prevalent. I do not say that no cases of pyorrhœa alveolaris will exist. Pyorrhœa alveolaris existed before tooth-brushes were thought of. The modern prevalence of the disease is due to the way in which the mucous membranes of the mouth are irritated and their resistance lowered by these septic brushes.

I have traced the source of the disease in Greenland and Iceland. The prevalence there has been put down to the incoming of western civilisation and diet. The Kaffir in South Africa has been similarly affected. The civilised diet and mode of living of the Eskimo and the Kaffir are poles apart, although the origin is the same. The one thing they have now in common is the filthy tooth-brush, and in its train comes the prevalence of pyorrhœa alveolaris.

Conclusion.

In conclusion, I emphasise that pyorrhœa alveolaris is in no way actively caused by the dirty brush; but that the ground is so prepared by this constant irritation that the membranes fall an easy prey to the disease, should other predisposing conditions arise. Whatever may be the activating cause, these filthy brushes are at the root of 90 per cent. of the cases, and the prevention is in the patients' own hands. The few cases which occur independently of brush irritation could all the more certainly be dealt with.

Clinical and Laboratory Notes.

A CASE OF SELF-INDUCED "REDUCTION EN MASSE."

BY PHILIP HAWE, M.B. LIVERP., F.R.C.S. ENG.,
SURGICAL REGISTRAR AND ASSISTANT, NORTHERN HOSPITAL, LIVERPOOL.

THE dangers of taxis in cases of strangulated hernia are, of course, well known, but the following account may emphasise how very little pressure, even by the patient himself, may be sufficient to cause disaster.

A man, aged 30, a bridge-builder, had reduced his right inguinal hernia without difficulty many times during the last five years. Recently he had a *little* more trouble than usual but succeeded in reducing it with only slight discomfort. But after this—with the exception of one small motion, presumably from the intestine below the hernia—constipation became absolute and the symptoms of acute intestinal obstruction developed. Vomiting commenced on the fifth day, and on admission to the hospital on the sixth day the abdomen was moderately distended and the patient rather collapsed. No abnormality was to be found in the region of the hernial orifices nor was there any localised tenderness.

Operation revealed a "reduction en masse"; the whole sac had been displaced from the inguinal canal into a properitoneal position—it was not an example of reduction from a main sac into a properitoneal diverticulum—and the neck of the sac was strangulating three inches of the small intestine contained therein. The gut recovered sufficiently, on section of the constricting band and prolonged application of hot saline, to allow of its return into the abdomen. Unfortunately, the patient died from paralytic ileus two days later.

This illustrates how gentle must be taxis, if employed at all, in cases of hernia. It would be unreasonable to discredit the patient's account of the force used by him, or the slight amount of pain he caused himself during the reduction of the hernia, and yet he was able to displace the sac and its contents from the inguinal canal.

I am indebted to Mr. J. H. Rawlinson, of the Northern Hospital, for permission to publish these notes.

ANALYSIS OF SOME UNUSUAL INTESTINAL CONCRETIONS.

BY A. WOODMANSEY, M.SC.,
ANALYST, HARROGATE CORPORATION.

THE scybala were passed by a patient taking intestinal lavage treatment at Harrogate with alkaline sulphur water—viz., the Harlow Spring. At the second treatment large membraniform casts of mucous matter came away. A similar removal followed each treatment until the fifth, when the patient passed 12 hard

scybala coated with mucus. There was no hæmorrhage. Five of the concretions were taken for examination.

Analysis.

Weight of five scybala (representative of the 12)	2·5 oz.
Moisture and volatile matter (110° C.)	51·6 per cent.
Alcoholic extract, highly fluorescent.	
Aqueous extract (a reddish-brown gummy material)	3·3 „
Dry insoluble residue (showed under the microscope a granular appearance but no characteristic structure beyond the presence of a few hair-like fibres)	45·1 „

From the dried material the following constituents were isolated. Acid radicles, PO_4, SO_4, and Cl, were not estimated. The percentages are calculated on the undried specimen.

Unsaponifiable fat, cholesterol, &c.	4·5 per cent.
Saponifiable oil	1·4 „
Silica and insoluble matter	0·1 „
Bismuth oxide	0·69 „
Ferric oxide	traces.
Calcium oxide	3·00 „
Magnesium oxide	2·45 „
Protein substance (calculated from Kjeldahl estimation)	15·6 „
Carbohydrate substance (calculated from Fehling estimation)	19·6 „

Notes.

Seven weeks previously the patient had taken a bismuth meal prior to radiological examination. As the bismuth content is low it is probable that the scybala were present in the intestine long before the meal. Lavage with saline solution in a nursing home had been unsuccessful in removing the cause of trouble. The inorganic bases apart from the bismuth are normal constituents of excreta.

NOTES ON SEVERAL ABNORMALITIES IN THE SAME PATIENT.

BY MAURICE E. M. JAGO, M.B., B.S. LOND.,
SENIOR HOUSE SURGEON, BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.

THE following case is of interest in view of the variety of conditions found :—

A woman, aged 22, was admitted to the Blackburn and East Lancashire Royal Infirmary on May 21st, 1926. She had been recommended for operative treatment for a left inguinal hernia, and a note had been made that she was suffering from phthisis. Preoperative routine examination in the ward elicited the following history and clinical facts.

She had noticed a swelling in her left groin for about six months. For as long as she could remember she had suffered from a bad cough and had received treatment for the same in the Royal Infirmary, Manchester. The family history was good and no history of tuberculosis was obtained.

On examination of the left groin and upper part of the left thigh a swelling appeared when the patient coughed. This swelling was in the upper part of the thigh on the inner side, distal to Poupart's ligament and distal and external to the spine of the pubes. There was an expansile impulse on coughing. The swelling was easily reducible and did not reappear during recumbency except on coughing. A diagnosis was made of left femoral hernia (? saphena varix); there was no varicosity of the veins of the leg.

The patient had a continuous cough. She had pigeon-breast deformity of the chest, but movement on respiration was good. Tactile vocal fremitus was increased on the right side; the right apex was dull to percussion, and on auscultation the breath sounds were bronchial in type. There was a suspicion of a cavity at the level of the third or fourth rib, indicated by post-tussive suction. Râles were heard all over the right side of the chest.

On continuing the examination of the chest, cardiac dullness was not obtained on the left side. The position of the heart was eventually discovered to be well to the right side of the middle line, and this was at first thought to be due to a fibroid condition of the right lung. On examination of the abdomen, however, the liver dullness was made out on the left side, while the stomach resonance was under the right costal margin. Finally, on examination of the back, it was noted that the spinous processes of the lower vertebræ were bifid.

An X ray examination revealed complete transposition of the heart, stomach, intestines, and liver. An opaque meal revealed normal gastric and duodenal shadows. No abnormality was seen in the lower ileum, cæcum, and ascending colon, the latter, of course, being on the left side of the abdomen. The right lung appeared smaller than the left, and was less luminous in the upper lobe and middle portion. The film showed irregular mottled density involving especially the middle portion of both lungs. A radiographic diagnosis of bronchiectasis was made.

No operation was performed on account of the condition of the chest, and the patient was discharged on June 16th. Throughout her stay in hospital her temperature was subnormal, the respiration-rate about 20, and pulse-rate 80 to 100.

My thanks are due to Dr. H. C. Lees, under whose care the patient was admitted, for permission to publish this case.

Medical Societies.

OXFORD OPHTHALMOLOGICAL CONGRESS.

THE seventeenth annual meeting of this Congress was held at Oxford from July 7th to 9th under the Mastership of Mr. PHILIP H. ADAMS. After the formal opening a discussion was held on the

RESULTS OF OPERATIVE TREATMENT OF GLAUCOMA.

Dr. WILLIAM H. WILMER (Johns Hopkins Hospital, Baltimore) began by referring to the work of von Graefe who, in 1857, wrote concerning glaucoma "the absence of general agreement constitutes an hereditary evil of therapeutics only to be cured by slow degrees . . . The only treatment from which relief can be expected is one that diminishes pressure." That both these propositions are true to-day, said Dr. Wilmer, is attested by the fact that over sixty operative procedures, with many modifications, are on record, all of which are devised solely for the purpose of reducing intra-ocular tension. An analysis of a few of the kinds of operations and their results as reported by various authors is as follows :—

Iridectomy.—482 cases: successful, 63·3 per cent. No late infection mentioned.

Anterior sclerectomy (Lagrange).—777 cases: successful, 72·8 per cent. Late infection (based on 389 eyes), 1·3 per cent. Lagrange's own cases, 104: successful, 85·5 per cent.

Sclerocorneal trephine (Elliot).—3381 cases, not including 911 eyes operated upon in Egypt: successful, 77·6 per cent. Late infection, 1·2 per cent.

Punch (Holth).—Holth publishes the record of 200 cases in Christiania from 1920 to 1923. The percentage of successes is not given, but he states that there were no late infections, and concludes: "The lowering of the ocular pressure is as good as in the other forms of sclerectomy and, so far, no case of late infection has been observed." Hagen records 52 cases operated by Holth, H. Schiotz, and himself. Of these he excludes 12, confining his tables to 40 cases of glaucoma simplex. Successful, 82 per cent. Butler reports 29 cases: successful, 79·3 per cent. Late infection, 3·4 per cent. Later he reports 39 cases: successful, 66·7 per cent.

Iris incarceration.—517 cases, iridotasis and iridencleisis: successful, 87·4 per cent. Late infection, 0·3 per cent.

Wedge-isolation and small flap. Sclerotomy (Herbert).—The author has given up the former operation for the small flap sclerotomy. The reports are too few to analyse. Butler quotes seven cases (small flap). Successes, 50 per cent., but this in no way indicates the excellent results obtained by the skilful originator himself.

Cyclodialysis (Heine), 1027 cases: successful, 66·7 per cent. No serious complications mentioned.

Dr. Wilmer said that whilst he employs iridectomy, anterior sclerectomy, and cyclodialysis, he more often uses the trephine operation. He presented two series of his own trephine cases.

Series 1 (private cases).—Of these 72 eyes 76·3 per cent. of the whole number have been under observation from 10 to 15 years; 19·4 per cent. from 5 to 10 years; and 4·1 per cent. from 3 to 5 years. Successes, 84·8 per cent.; failures, 15·2 per cent.

Series 2.—35 cases (private and free), trephined within two years (none within four months), are reported for

comparison. Successful, 91·3 per cent.; partial failure, 5·7 per cent.; complete failure, 2·8 per cent.

In these cases, said Dr. Wilmer, success meant a tension of 18 or under (Schiotz reading), with a maintenance or improvement of the vision and the fields of vision as compared with that before operation. Causes of failure were previous venous thrombosis, tuberculous deposits filling trephine openings, traumatic dislocation of lens 10 years after a successful operation, rapid development of immature cataract after hæmorrhage, and repeated retinal hæmorrhages. In 19 of the second series of cases, a Tenon's capsule implant was made use of, a valuable procedure where the conjunctival flap is too thin and as a prevention against late infection.

Dr. Wilmer showed a series of slides of the eyes of rabbits and dogs, upon which anterior sclerectomy, sclerocorneal trephine, wedge isolation, small flap sclerotomy, and iridotasis had been performed. After commenting on the various types of operation, he said that every operator is more skilful in the performance of the operation he selects, but for the average the trephine is more safely and easily performed than the Lagrange or punch operation. It is also suitable for more kinds of glaucoma and in eyes with very high tension. In the Lagrange operation, if the pressure is high, there is more danger of expulsion of the lens and loss of vitreous at the time of the operation or later. Few operators have the skill of the originator of the excellent operation that bears his name. When the surgeon has much operative material, so that he can perfect his technique in both the Lagrange and Elliot operations it is a practical plan to perform an anterior sclerectomy when the tension is below 35 (Schiotz), and to trephine when the tension is higher than this.

Discussion.

Prof. FELIX LAGRANGE (Paris) referred to his performance of sclerecto-iridectomy for the first time in England at the Oxford meeting held in 1906. He had never seen infection follow his operation.

Mr. A. L. WHITEHEAD (Leeds) said that, after trying other procedures, his rule now was to perform iridectomy in case of acute glaucoma and to trephine for chronic glaucoma. An analysis of 120 of his private cases, chosen because the records were more complete than in hospital cases, was as follows:—

Of 38 *acute cases:* 57·9 per cent. were successful, 26·3 per cent. partially successful, and 15·7 per cent. failures.

Of 14 *subacute cases:* 85·7 per cent. were successful, 14·3 per cent. partially successful, and there were no complete failures.

Of 48 *chronic cases* 87·5 per cent. were successful, 4·1 per cent. partially successful, and 8·3 per cent. failures.

Lieut.-Colonel H. HERBERT (Brighton) considered that successful results were obtained with his small flap operation especially if massage was regularly applied afterwards. With regard to iris-inclusion he thought there should be a distinction made between disasters at the time of operation and simple failures to relieve tension, and he felt that there ought to be no danger of sympathetic ophthalmia provided that proper aseptic precautions were undertaken before the operation. His belief was that the future lay with the small linear wounds either with or without iris inclusion.

Mr. MALCOLM HEPBURN (London) said that his operative experience had forced him to the conclusion that not all forms of glaucoma could be explained on the same pathological theory, but that different pathological conditions accounted for the various types of the disease. It followed from this that the results obtained by applying one type of operation for all forms of glaucoma would be variable, and it was necessary for the surgeon in order to be successful to select the type of operation suitable for the case he had in hand. Good results would depend upon this and upon operating early; bad results would follow late or unsuitable operation, mistakes in technique and secondary complications over which the surgeon had no control.

Lieut.-Colonel R. E. WRIGHT (I.M.S.), agreed with Dr. Wilmer in his support of trephining as opposed to cyclodialysis and was interested in the method described by him for obtaining an extra cover of tissue over the trephine hole. He also favoured a broad iridectomy in cases in which he feared a "desquamation of uveal tissue" or "iritis" as it was termed. Massage was of value in all cases although there was really no necessity for it after trephine operations.

Dr. C. F. BENTZEN (Copenhagen) reported the results of 72 cases of trephining in which he had separated the conjunctiva from the limbus instead of from above as in the usual Elliot method. Of the 72 cases, 6 were those of buphthalmia, 4 of acute glaucoma, 14 of absolute glaucoma, and 48 of chronic glaucoma. No case of late infection had occurred. There were poor results in the buphthalmia cases and also in those of absolute glaucoma. In the acute cases the results were moderately good and in the 48 cases of chronic glaucoma there were 77 per cent. of successes.

Prof. J. SZYMANSKI (Wilno) described his modification of Elliot's operation in which he made use of a large trephine cutting obliquely a semi-circle of sclera which was then excised with scissors.

Mr. HARRISON BUTLER (Birmingham) referred to the mental complications of operations on elderly decrepit patients. In iridencleisis operations he had found that no result was obtained—i.e., neither fall of tension nor untoward complications. After trephining a shallow anterior chamber might follow, which if persistent led to the formation of a nuclear cataract. He had observed the fall of tension in the fellow eye after a successful operation on the one.

Mr. R. C. DAVENPORT (London) referred to the analysis of some 536 cases of glaucoma, 405 being primary, which had been trephined at Moorfields by various surgeons in the last five years. The results obtained were according to vision only. These had been reported fully in the *British Journal of Ophthalmology* (1926). In only two of the 536 cases did mental disturbance occur; there were 14 cases of late infection, of which, however, only 8 were definitely in connexion with the trephine hole.

Dr. HARALD GJESSING (Drammen) spoke of having had 81 per cent. of good results by Holth's method, the cases having been under observation from 7 months to 11 years.

Mr. J. GRAY CLEGG (Manchester) considered that detachment of the choroid was a much more frequent result than was usually thought, even occurring, he thought, in 10 per cent. of cases.

Mr. B. GRAVES (London) referred to cases of persistent low tension after operation, in one of which shrinking of the eye had followed.

Mr. D. V. GIRI (Eastbourne), speaking of the fluorescin test for filtration, commented on the variations in tension which occurred during the day.

Lieut.-Colonel A. E. J. LISTER (Bristol) asked for an expression of opinion on the question of low tension after operation, which he regarded as a very alarming complication.

Dr. WILDER (Chicago) said that all the operations had been tried in America, and the fact that no definite conclusions had been reached was good evidence that none of them was perfect. The best thing would be for one surgeon to perform all the various procedures for comparison. He personally was in favour of the iris-inclusion operation, having only had one unsatisfactory case in 100 operated on by this method.

Dr. WILMER, in reply, said that expulsion of the lens after the Lagrange operation was, according to the literature, a not uncommon complication, and the accident had once been recorded after a trephine operation. He had never experienced separation of the choroid in his own practice, but had seen two cases in consultation, both of which promptly got well. He had had cases of very low tension after both trephining and the Lagrange operation, but had

never had an eye in which there was delayed formation of the anterior chamber.

DEMONSTRATIONS AND LECTURES.

On Thursday afternoon, after Prof. LAGRANGE had read a paper on Fistulisation of the Glaucomatous Eye, demonstrations were held in the Scientific and Commercial Museums.

Lieut.-Colonel WRIGHT demonstrated Green's apparatus in intracapsular extraction of cataract and his own method of blocking the main trunk of the facial to prevent squeezing in cataract operations. He also showed a series of histo-pathological slides of orbital neoplasms.

Dr. J. BURDON COOPER (Bath) demonstrated a new astigmatic test chart.

Dr. THOMSON HENDERSON (Nottingham) demonstrated in an ox eye the membranous nature of the ligamentum zonulæ lentis by injecting air through the ligament into the canal of Petit, thus showing that it is a closed space.

Dr. H. H. TYSON (New York) exhibited a series of skiagrams of the optic foramen showing the variations in size and shape from the normal, and demonstrated the effect which the narrowing of the canal had upon the optic nerve, causing atrophy.

Mr. D. V. GIRI showed a photograph of an apparatus for red-free ophthalmoscopy and a lid-retractor which raised the lids free from the globe as well as retracting them.

Mr. F. A. ANDERSON (Shrewsbury) showed an operating light obtained by a series of small lamps.

Mr. B. CRIDLAND (Wolverhampton) showed the drawing with specimen and slides of a case of cholesterin crystals in the anterior chamber.

The chief feature of the proceedings on Friday morning was the Doyne Memorial Lecture by Prof. K. K. K. LUNDSGAARD (Copenhagen), whose subject was the Pneumococcus in Connexion with Ophthalmology. He showed a chart of the incidence of the pneumococcus on the normal conjunctiva as determined by various observers since 1909, the latest record being that obtained by himself in 1925—namely, 6 per cent. The various types of the micro-organism were described and charted according to their virulence. Other charts were shown giving the incidence according to age and seasonal variation. At the end of his lecture Prof. Lundsgaard was presented with the Doyne Memorial Medal for the year.

Other papers were delivered by Dr. CARSTEN EDMUND, Lieut.-Colonel WRIGHT, and Dr. HOLGER EHLERS.

Friday afternoon was spent at the Oxford Eye Hospital where a series of interesting cases were shown by the Master, and by Mr. HARRISON BUTLER and Mr. HARRIES JONES. On Saturday morning papers were read by Dr. COOPER, Dr. MARGARET DOBSON, Dr. HARALD GJESSING, and Mr. GIRI.

The annual dinner of the Congress, which was well attended, was held in Keble Hall on Thursday evening with Prof. ARTHUR THOMSON as chief guest. Members who attended from abroad, in addition to those already mentioned, included Dr. H. Friedenwald (Baltimore), Dr. Bernard Samuels (New York), Dr. Birger Malling (Bergen), Dr. A. Verwey (Durban), Dr. R. G. Stott and Dr. A. S. Anderson (Australia), and Dr. Pandit (India). The total membership of the Congress is now over 400, and the attendance this year was well over the average.

BETHNAL GREEN HOSPITAL.—New casualty and receiving wards have been opened at Bethnal Green Hospital. Owing to the heavy increase in the number of casualties brought there by London County Council ambulances, the work of the hospital steadily develops. In 1923–24 these cases numbered 266; in 1924–25, 460; and in 1926, 752. In the new wards there is good accommodation for men and women.

WANTAGE COTTAGE HOSPITAL.—The new Cottage Hospital at Wantage was opened recently by Princess Helena Victoria. The hospital, built in red and grey concrete, faces south, and contains private wards for both men and women, as well as general, maternity, and children's wards, all having access to a verandah. There is an operating theatre, and the latest ultra-violet ray treatment is provided in the clinic.

Reviews and Notices of Books.

PREVENTIVE MEDICINE.

An Introduction to the Practice of Preventive Medicine. Second edition. By J. G. FITZGERALD, M.D., LL.D., F.R.S.C., Professor of Hygiene and Preventive Medicine, and Director, School of Hygiene and Connaught Laboratories, University of Toronto. London: Henry Kimpton. 1927. Pp. 792. 35s.

ADAPTATION of the principles of hygiene to the peculiarities of local climates and social conditions, together with the rapid extension of public health practice, has led in recent years to the production of numerous text-books. Within the past year we have reviewed several manuals which cover, in a sense, common ground, but in which the point of view varies with the social development of the country for whose nationals the books are intended. Thus, for India apparently sanitation is still the most urgent need; British text-books bravely try to cover the whole field of hygiene and tend, in consequence, to be unattractive to the reader; while the American books devote most space and the best writing to the epidemiological, bacteriological, and immunological aspects of the public health. In both American and British publications the newer branches of hygiene, which aim rather at the promotion of health than the prevention of disease, are beginning to encroach upon the space formerly taken up by the discussion of those engineering problems which figured so prominently in the sanitary science of last century. The book under review follows the American pattern, giving first place, after a brief statement of the aims of hygiene, to the prevention of the communicable diseases and devoting several chapters to this subject. Other chapters deal with water, milk, foods, and air (written by Mr. H. M. Lancaster), diet, &c. (by Dr. Andrew Hunter), sanitation (by Mr. Peter Gillespie), maternal and child hygiene, school hygiene and clinics, vital statistics, public health organisation and public health education, while a chapter on industrial hygiene is contributed by Dr. J. G. Cunningham and Dr. R. M. Hutton. Illustrations throughout are derived mainly from the records and experiences of Canada or the United States, and the writers have drawn largely from American current public health literature. Reference is made, however, to most of the really important European work of recent years, with the exception of Prof. W. W. C. Topley's epidemiological studies. Some of the statistics quoted might have been more useful if they had been submitted to a process of digestion, but they will be of value to those who have no means of access to the actual government or state records from which they have been culled. This manual should prove valuable to Canadian students and practitioners of preventive medicine, and will find readers also in this country.

PREVENTIVE MEDICINE AND HYGIENE.

Fifth edition. By MILTON J. ROSENAU, Professor of Preventive Medicine and Hygiene, Harvard Medical School. London and New York: D. Appleton and Co. 1927. Pp. 1458. 42s.

SINCE the first edition appeared in 1913, this text-book has ranked, not only in America but also in this country, among the few standard works on public health. It has now undergone very careful revision in order to eliminate all that has been shown to be unsound as the result of the work of the past five years. Several hundred pages of the former edition have been omitted, and new subjects have been introduced, such as the psycho-analytic approach to sex hygiene, the prevention of cancer, the conservation of vision, periodic physical examinations, and so forth. Among the sections which have been largely re-written are those on scarlet fever, scurvy, rickets, and pellagra. This book differs from most English text-books in the

relatively meagre amount of space given to sanitation in contrast with that devoted to the prevention of communicable diseases. This feature will appeal to the modern health officer of all countries, although it must be remembered that the immigrant and unstabilised character of the American population is perhaps associated with greater epidemic menaces than the older civilisations have to meet. The established American views on such subjects as disinfection and vaccination are set out, and with these we find ourselves in complete agreement. Generally it may be said that Rosenau discards none of the hard-earned knowledge of the pioneers, but places it in proper perspective with the newer thought on sanitation and epidemiology. It is a pity that, probably as the result of hasty writing, this excellent book is marred by occasional lapses in literary style.

THE ÆTIOLOGY OF BERI-BERI.

Beiträge zur Geschichte der Erkennung der Beriberi als Avitaminose. Von Prof. Dr. G. GRIJNS, Landbouwhoogeschool Wageningen, Holland; Fortschritte der Naturwissenschaftlichen Forschung. Herausgegeben von Prof. Dr. EMIL ABDERHALDEN, Halle A.S. Neue Folge, Heft 1. Berlin and Vienna: Urban and Schwarzenberg. 1927. Pp. 32. Mk.3.

AN introduction by the editor, Dr. Emil Abderhalden, explains that this pamphlet recapitulates in German the early work of Prof. G. Grijns on beriberi and polyneuritis gallinarum, which had appeared for the most part in Dutch and in periodicals not easily accessible. The first few paragraphs are devoted to Dr. C. Eykman's well-known original observations, beginning in 1889, when he first noticed the spontaneous occurrence of polyneuritis among fowls living on polished rice. Grijns followed Eykman in 1896, and his researches from then on are summarised. He showed, for instance, that supplements of mineral salts had no beneficial influence in polyneuritis gallinarum; that the origin of the rice was indifferent; that freshly milled rice was as productive of the disease as that which had been milled a long time, and that additions of fat were not helpful. He found that *Phaseolus radiatus*, the katjang idjo bean, as an addition to the diet, was an excellent preventive against beri-beri. He marshals evidence and discusses the facts then known as to whether the disease is due to a toxin or a deficiency, and was himself already then inclined to favour the latter view. He brings the account of his work down to 1911, when the vitamins, both as a name and as a concept, were well established.

Prof. Grijns is well known to most students of beri-beri as the discoverer of the katjang idjo bean, the use of which has played so large a part in the fight against the disease in the East. He is also familiar as the maker of important contributions to the pioneer work on the disease; Casimir Funk speaks of him as "the first worker to express clearly a conception of beri-beri which holds good to this day." The value of his contribution is undoubted, but whether there was a demand for the republication of his work at the present time and in the present form it is less easy to say. Possibly owing to the neglect which the vitamins suffered in Central Europe, owing to the war, this new summary in German may fill a greater need than it would do here. It is certainly handy and well arranged.

JOURNALS.

THE QUARTERLY REVIEW OF BIOLOGY. Vol. II., No. 2, June, 1927. Baltimore: Williams and Wilkins Company. London agents: Baillière, Tindall and Cox. 85 per annum.—Prof. Raymond Pearl's review continues its useful career in helping to keep those who are not professional biologists from falling too far behind the rapid progress which is being made in various directions. This number opens with a long article on the innervation of muscle by Dr. M. Hines, which deals with the question of pluri-segmental innervation, red and white muscle, muscle spindles, and—which will be of special interest to our readers—with the relation of the sympathetic to skeletal muscle and the work of Hunter and Royle; tone remains as mysterious as before.—The next essay is on animal life in hot springs, especially those in Yellowstone Park, by C. T. Brues. An account is given of the varied collection of live things which live in such places; elementary plants can live in water at more than 70° C., but the adaptation of higher invertebrate animals is much less—45° C. or thereabouts as a maximum.—Prof. A. Brachet, of Brussels, writes on the present state of knowledge of the germinal localisation of the factors for development in the egg, and Prof. L. V. Heilbrunn on the viscosity of protoplasm.—Prof. F. A. E. Crew continues his clear exposition of abnormalities of sex, and in this instalment considers the instances in which the sex, as determined by the chromosome equipment, is overridden by other factors, a matter on which the masculinising tumours of the adrenals might receive more attention.—Lastly, Dr. W. K. Gregory philosophises on the lateral aspect of the skull from fishes to man, and the number ends with 26 pages of useful book notices. Medical libraries swell to bursting nowadays, but this is a journal which they will do well to take.

Reports and Analytical Records.

AUSTIN'S ORANGE MARMALADE (SUGARLESS).

(MANUFACTURED BY J. E. AUSTIN AND CO., LTD., ST. JAMES'S WORKS, CROMWELL-ROAD, KINGSTON-ON-THAMES.)

THIS product has the appearance, smell, and substantially the flavour of ordinary marmalade, and is distinctly sweet to the palate. When analysed the following results were obtained:—

Moisture	62·00 per cent.
Mineral matter	0·38 ,,
Matter insoluble in water	1·60 ,,
Sugar	1·90 ,,
Citric acid	0·54 ,,
Soluble extractives, including glycerol, pectinous matter, &c.	33·58 ,,

Gelatin and confectioner's glucose were absent, and saccharin, formalin, benzoic, salicylic, and boric acids were tested for with negative results. The minute trace of sulphurous acid was less than is permitted by the recent regulations.

The sweetness is due to glycerol, and the statement of the manufacturers that the marmalade is free from added sugar and therefore suitable for diabetic patients is a correct one.

HINDES' BROWN HAIR TINT.

(PREPARED BY HINDES, LTD., 60, PARKER-STREET, KINGSWAY, LONDON.)

We have examined this well-known hair tint, the manufacturers having supplied us with the formula for our confidential consideration. We find that its composition is what it is stated to be. Hindes' brown hair tint contains no scheduled poison.

KIA-ORA LEMON SQUASH.

(KIA-ORA, LTD., BLACKFRIARS, LONDON, S.E. 1.)

This well-known lemon squash is prepared from lemons and sugar. For consumption as a beverage it is mixed with an appropriate amount of water or soda-water. On analysis the following results were obtained:—

Specific gravity	1·1695°
Sugar	33·1 per cent.
Citric acid	2·83 ,,
Glycerine	5·00 ,,
Ash	0·30 ,,
Water and lemon pulp	58·70 ,,

A small amount of sulphurous acid was found, which serves the purpose of a preservative. From these results it will be seen that "Kia-Ora" is a genuine lemon juice which has been sweetened by the addition of sugar and glycerine.

THE LANCET.

LONDON, SATURDAY, JULY 23, 1927.

THE ENCROACHMENT UPON INDIVIDUAL PRACTICE.

THE position of the general practitioner in the face of modern developments, alike in social legislation, in medical knowledge, and in technical equipment, has been seen for some time to present problems of growing perplexity. Similar problems have attended similar evolution before now, but to-day their complexity is such as to warrant apprehension. Some of the debates at the Representative Meeting of the British Medical Association, held in Edinburgh at the end of last week, revolved definitely round certain of these problems, while in the course of other debates it was clear that their existence was present in the minds of the speakers and was influencing their thoughts and their words. The fact that, save in the broad desire to do well by the public, there was no complete unanimity of medical opinion in these debates was not only what might be expected, but it is a proof both that the existence of grave difficulties is realised widely and that the need is felt for the earnest coöperation of all concerned if the conduct of medical practice is to maintain the spirit—the admirable spirit—of the past. It is now more patent than ever that the positions which arise in professional life are not only those which affect a fair adjustment of the interests of the public in relation to the interests of the medical profession as a whole. The medical profession, as a whole, cannot under the existing pattern of public affairs have more than one common concern—namely, that of promoting the health of the people, a concern which they share with the public. The scope of the all-round practitioner, of the specialist, and of those engaged in official or institutional positions cannot be subservient to identical practical desiderata, and it is the diverse nature of the claims of medical practice that is making so hard the arrival at definite decisions.

The general practitioners are those who really conduct the practice of medicine in the land, and the questions at issue concern not only the possible encroachment upon their natural duties by alterations in the law of the land, but concern also the encroachment conducted, with the best of motives, by State or municipal authorities, through the medium of medical officers or of various specialists, the latter of whom may be taken to represent the class of medical men which by equipment and opportunity is regarded as a leading one. It is imperative for the settlement of lines along which the medical practice of the country can proceed to the advantage both of the public and the medical profession that the sections of the latter, thus crudely set out, should not antagonise each other, but should realise that in overlapping territories of duty and responsibility joint efforts should be made for the public good. This should be the simpler because the sections of the medical profession are far more divided in appearance than in reality. For example, that large proportion of general practice which is represented by the work done under the National Insurance Act can itself be roughly classed as State practice, but its officers are definitely concerned with the individual care of patients, which they give in accordance alike with time-honoured methods and new knowledge. The quality of the service rendered is well standardised and has admittedly undergone marked improvement as the machinery for conducting general practice has been modified to bring the domiciliary care of the panel patient more closely into line with the traditions of private practice. That is all to the good, but it is also to the good that the practitioners of medicine along particular lines should form groups in order that their experiences may be collated and that definite plans of procedure should be evolved. Such men bring to the common task of maintaining and improving the health of the country the knowledge which can only be obtained and the talents which can only be kept bright by the intensive nature of their studies. But the more just their views of the good which they can accomplish the more clear will be their apprehension of the fact that the benefits which they can bestow will be vastly enhanced by close coöperation with those who have the charge of the general health of their patients. It follows that the specialists should regard themselves as consulting practitioners, anxious to take into consideration, when formulating any action, the opinions of the practitioners, and ready to explain to their colleagues the purposes in their minds. A similar fusing of knowledge and duty between practitioners and the officers of sanitary or lunacy services is possible, and it is especially when questions of early diagnosis arise that joint action is of public benefit. There is room under the natural expansion of the National Insurance Act for the linking up in this way of the sections of the profession, and the policy of the Ministry of Health should be directed broadly to those ends.

These are the considerations which should be clear to those who in the cause of the public propose to provide, by public or voluntary means, the facilities for medical treatment, and their significance should not be missed by commercial enterprises, if it is desired to work harmoniously with doctors. It is no sign of progress that the pattern on which individual medical practice has been conducted so splendidly and so long should be destroyed. A humorist has pointed out that those who career through the old villages of England in charabancs may soon desire to have the villages, which they purport to be visiting, removed, because the ancient byeways and projecting buildings impede the transit of the vast vehicles. If commercialisation of medicine should grow to the proportions of the charabanc industry, we may well ask if much that is beautiful and time-honoured in our conduct of practice is not threatened by the very machinery which is designed to make that practice more efficient.

VENEREAL DISEASE AND PROFESSIONAL SECRECY.

THE medical profession has not had long to wait for a fresh illustration of the difficulty and invidiousness of its members' position when they are brought into the witness-box to give evidence as to their treatment of patients suffering from venereal disease. At the Birmingham Assizes last week a medical practitioner from the Birmingham General Hospital was subpœnaed, on behalf of a wife petitioning for divorce, to give evidence concerning the treatment of her husband at the hospital in 1924. The witness naturally protested, and not merely on the grounds of professional tradition. He stated that he was not at the head of the hospital department concerned in 1924; a number of doctors were engaged in this work, and all had their own papers which were their personal property; he himself had no authority to produce other doctors' papers. Mr. Justice MCCARDIE, a judge who has often shown sympathy with the medical point of view, found himself obliged to say that the witness was entitled to no privilege, but must produce the documents and information. If he did not do so, every medical man and a number of officials from the hospitals would have to be called to the court, and ultimately the documents must be made available. If information were not given that should be given, and if documents were not produced which should be produced, the law, said the judge, would be enforced, and the doctor refusing to obey its order would be sent to prison. The hearing was adjourned until July 18th, in order that the doctors concerned might be subpœnaed. On resumption Mr. Justice MCCARDIE asked the learned counsel appearing for the petitioner whether he had considered the effect of the special obligation of medical secrecy in cases of venereal disease. Counsel argued that the Local Government Board's Regulations of 1916, which specifically direct non-disclosure, had no power to override the witness's duty to answer questions. This argument the judge accepted and upheld. His lordship said that the medical profession normally was under the duty of keeping inviolate the secret knowledge that its members may gain from treating a patient; indeed, they might become liable to a civil action for damages if without lawful excuse the duty of confidence was broken; but in a court of law the doctor had no privilege similar to that held by a solicitor or other legal adviser, and he was not privileged from compulsory disclosures of communications, however confidential. A further point arose, he continued, in the present case as to whether doctors were in a specially privileged position owing to the fact that they were acting in a department under the control of the Ministry of Health through the local health committee. In his view there was nothing in the regulations, nor in any regulations he had heard of, which saved a doctor from the obligation of disclosing—if ordered to do so by the court—all the information he might have of the facts he had gained while acting under the regulations.

In this unfortunate conflict of loyalties which has been thrust upon the medical profession two things are clear. In the first place a fresh situation has arisen in which the immemorial professional tradition of secrecy has to face a new challenge on a wide front. New arrangements, officially organised, have involved the treatment of venereal disease on an unprecedented scale. Simultaneously the law has made new demands for evidence. Recent years have witnessed a huge increase in divorce petitions, partly because of the social unsettlement of the war period, partly because divorce has been made easier for the wife, and partly (indeed mainly) because of the remarkable development of facilities for poor petitioners. To relieve the law-courts in London, matrimonial causes have been made triable locally at assizes with greater local publicity. In so far as this class of litigation gives occasion for medical evidence of venereal disease, the occasions have been lately multiplied. Meanwhile another change in the law has enabled a married woman to apply for a separation order on the ground that her husband has insisted upon marital relations while knowing himself to be suffering from venereal disease. Here is fresh occasion for inviting the doctor into the witness-box, and here it is not a case of the patient waiving his or her right to secrecy, but of a doctor giving evidence against the legal interests of the patient.

The second point which is clear is that the Ministry of Health cannot leave matters where they stand. Official utterances proclaim that it is peculiarly necessary to maintain strict professional confidence if venereal disease is to be combated; official regulations enact that secrecy is a legal obligation. All this is meaningless if judges can insist upon full disclosure. Hitherto many have thought it possible to compromise by way of protest on the part of the medical witness. But if protest is to be treated as a mere formality, if a hospital doctor is to be treated as though he were the secretary of a limited company and is to be compelled to produce confidential documents belonging to other practitioners merely because those documents are within the hospital walls, the public will soon learn to distrust the alleged secrecy which the Ministry of Health professes to ensure. Will the Ministry make it clear by regulation or, if necessary, by Act of Parliament that the promise of non-disclosure is genuine and inviolable? If not, it would be only fair to the patient to qualify the promise and to inform him, when he comes for treatment, that not only can secrecy not be ensured, but that—in the language used to the suspected criminal—anything he may say will be taken down and used in evidence against him.

GLAUCOMA.

OF the more serious problems of ophthalmology that await solution the problem of glaucoma is as important as any. Many conditions, of course, will cause a pathological rise of intra-ocular tension, and many factors are involved, but it is to primary glaucoma, acute and chronic, that most attention has been given. The ætiology and pathology of these states is being investigated in various directions. The physiology of the intra-ocular fluids, their relation to the vascular and nervous systems, and the biochemistry of the lens and vitreous under normal and abnormal conditions, have all to be put upon an unassailable basis before other factors can be considered. Anatomical states, normal and pathological, necessarily play their part, and much attention is being devoted to these also. More definite progress, however, is apparent along the lines of diagnosis, treatment, and prognosis. Tonometry, for instance, and careful methods for examining the whole visual field have greatly helped in early detection of the glaucomatous state, though, in a given case, it is still essential to collect all available clinical evidence; to depend on any one diagnostic factor is unsound.

Acute glaucoma is less of a surgical emergency than it was, for immediate medical treatment often improves the condition enough to allow operation under more favourable and quieter conditions. When this improvement cannot readily be brought about, the classical iridectomy is the operation of choice, and though done under difficulties it shows a very fair measure of success. Although research and experiment in the use of adrenalin and other non-surgical agents have had striking results, the limitations of medical treatment in all forms of glaucoma are being better realised. At the Oxford Ophthalmological Congress, of which we publish a report on p. 173, the varieties of operative treatment were carefully reviewed. The results, it was shown, were on the whole very satisfactory, though opinions differed about the soundest surgical methods of securing and maintaining satisfactory tension in the eye without excessive mutilation or undue risk of infection. The two that found most favour were permanent fistulisation of the angle of the anterior chamber beneath the conjunctiva, and deliberate and permanent subconjunctival inclusion of iris tissue in a scleral wound. Results of the latter method, chiefly from continental surgeons, were shown to be very good, and the case they made out seemed too complete for attack on the ground—so firmly held by ophthalmic surgeons—that any entanglement of the iris in a perforating ocular wound is a source of grave danger and anxiety. Prof. FELIX LAGRANGE, of Paris, very ably outlined the indications for, and requirements of, fistulisation of the eye, advocating the method he devised and originally described at Oxford many years ago. In his hands, and those of others, the operation has given excellent results. The British surgeons and Dr. W. H. WILMER, of Baltimore, who opened the main discussion, reported considerable success—in more than 80 per cent. of cases—with the Elliot trephine operation, which is probably easier to perform than Lagrange's anterior sclerectomy. The dangers of the thinly-covered trephine aperture, with the risk of late infection, were freely discussed, and Dr. WILMER described the method he has evolved of laying a graft of Tenon's capsule over the aperture so as to ensure a firmer covering beneath the conjunctiva.

The lesson of the discussion seemed to be that any of the well-recognised procedures will give a good result—especially in early and favourable cases of chronic glaucoma—provided it is carried out by a capable surgeon who is used to technique. If this is true, progress is unlikely except from further ætiological research, from sorting out the various types of the disease, and from learning their association with altered intra-ocular volume, gradual or precipitate, under normal or abnormal anatomical and physiological conditions. It is to be hoped that surgery will be needed less and less as time goes on, and that, where it is required, the special indications for particular forms of operation may be more clearly defined.

INDEX TO "THE LANCET," VOL. I., 1927.

THE Index and Title-page to Vol. I., 1927, which was completed with the issue of June 25th, is now ready. A copy will be sent gratis to subscribers on receipt of a post-card addressed to the Manager of THE LANCET, 1, Bedford-street, Strand, W.C. 2. Subscribers who have not already indicated their desire to receive Indexes regularly as published should do so now.

Annotations.

"Ne quid nimis."

RESEARCH ON ENZYMES.

IN all branches of human endeavour a few singularly gifted individuals have been able not merely to achieve epoch-making work themselves, but to provide a continuing source of inspiration to their followers. Such an individual was Michael Faraday, and his investigations on "the power of metals and other solids to induce the combination of gaseous bodies" served as a starting-point for research on those change-inducing and accelerating bodies which Berzelius in 1837 named catalysts. The functional similarity of inorganic catalysts, such as platinum, to those organised ferments of which yeast is a type led to much research in both classes. It was probably the dissimilarity which caused Kühne, in 1878, to give the name of enzyme to those catalysts which could be extracted from yeast and other organisms of the same kind. The simpler inorganic catalysts are characterised by the wide range of actions which they will accelerate, whereas the enzymes are highly specific in their action. In his Faraday lecture delivered before the Chemical Society on May 18th, Prof. R. Willstätter, whose work on chlorophyll and on the blue and red pigments of flowers is of outstanding merit, discussed problems and methods in enzyme research. The subject is not simple, and it is probable that few of the large audience carried away much more than a mental picture of a vast and almost uncharted ocean. The printed lecture in the June number of the Society's journal makes it possible to form a clearer notion of what is definitely known. Frankly, this does not seem to be very much, although there is no doubt that work is being done upon the right lines. We are beginning to know what enzymes are not. A. Fodor supposed the saccharase of yeast to be substantially identical with a carbohydrate yeast-gum, but now this enzyme has been wholly freed from yeast-gum without change of activity. E. Fischer and others deduced that the enzymes "are derived from proteins and possess a protein-like character." Lipase, peroxydase, saccharase, and other enzymes can be so purified that the protein-reactions disappear completely. Other facts lead to the conception of the enzymes as peculiar organic compounds, and suggest the problem of isolating them in a state of purity. The task of increasing their concentration involves the measurement at every stage of the activity of the product obtained. The gentlest means must be adopted, and of late years very selective adsorption on specially prepared surface-active substances has been used. This is a process adopted in 1842 by A. Vogel for the isolation of pepsin, and abandoned for a long time, but revived about 20 years ago by Michaelis and Ehrenreich. The behaviour of the adsorbed bodies changes as the enzyme becomes more concentrated; for example, after purification to a certain stage by fractional adsorption, pancreatic amylase, which may be adsorbed by alumina under certain conditions, is no longer adsorbed by alumina gels of excellent adsorptive power. "The adsorption of enzymes is determined by chemical peculiarities which cannot be predicted."

The actual quantities available are small. "Thus the enzyme from 14 kilos of fresh brewer's yeast was adsorbed by 1 gramme of aluminium oxide and the adsorbate weighed 2·5 grammes"—under 0·02 per cent. Vegetable peroxydase in early stages of preparation contained sugar groups and about 0·5 per cent. of iron, apparently characteristic constituents. When its purity was raised fivefold by adsorptive methods the carbohydrates had disappeared and the iron-content had fallen to 0·06 per cent. Then a new property—a reddish-brown colour—appeared. Added to these difficulties are many others. Thus

the optimum pH for an enzyme's action may vary according to its degree of purity. Lipase in the human stomach, unlike pancreatic lipase, has its optimum action at pH 5–6; and the same is true for the stomach of the dog. After purification human gastric lipase has its optimal activity in alkaline solution at pH 8. Willstätter says "the only property of the enzymes which is independent of the purity is, as far as we know, their qualitative specificity; their adaptation to a definite set of reactions determined by constitution and configuration." This is certainly a hopeful circumstance. A substance which under all vicissitudes retains its most characteristic property will almost certainly be isolated. The history of organic chemistry shows that this is only a preliminary stage to ascertaining its constitution and to its ultimate synthesis. Willstätter and his school may only succeed in adding to the equipment of investigators in this region, but it seems not unlikely that the patience and brilliant insight which made green leaves and flowers reveal their secrets will penetrate some of the mysteries of the organised ferments so closely associated with the life of man.

AURAL VERTIGO.

THE *Bristol Medico-Chirurgical Journal* (1927, xliv., 119) publishes an interesting little article by Mr. E. Watson-Williams, in which he distinguishes the classical, or rotatory, vertigo from the other less well-marked forms, which vary from a vague sense of impaired equilibrium to feelings that the patient or his surroundings are moving up and down. In true rotatory vertigo the sensation is that the sufferer, or his surroundings, or both, are turning round and round; the sensation of turning is concise and definite, and even years after a slight attack the patient's description is clear and vivid. The apparent rotation is nearly always in the transverse piane—that is, in the plane of the base of the skull. Mr. Watson-Williams makes the point, which is not new but is often overlooked, that vague feelings of vertigo may or may not be due to aural disease, whereas this definite rotatory vertigo in the absence of cerebral trouble is always due to it; the symptom may occur without tinnitus and even without deafness. He also makes a more novel point, that the nausea of vestibular origin is usually worse in the morning, and that patients suffering from it have therefore no appetite for breakfast, though they may eat their other meals heartily. Attacks of aural vertigo are so often ascribed by the patient to biliousness that it is well worth while to insist, with Mr. Watson-Williams, that this definite rotatory vertigo is always due to disturbance of the mechanism of the labyrinth.

BIOCHEMISTRY AND MEDICINE.

A LARGE proportion of the funds available for medical research are nowadays allotted to laboratory workers whose investigations are apparently remote from the problems of the bedside and consulting-room. This policy is justified by the history of medicine and is only dangerous when allowed to bring clinical work into disrepute. If to-day the trend of ancillary research is largely towards biochemistry that is because this science offers the largest uncultivated areas to the pioneer. The horizons are illimitable and the land is rich; all that is necessary is its exploitation. For centuries there have been extending settlements around the coast from which the old world of medicine has drawn new life, but until recently only a few individuals have devoted their lives to exploring the hinterland. Now at last these isolated journeys are being correlated and the country between them begins to appear upon our maps. Fortunately, there are more and more benefactors ready to finance the survey and development of this new territory in the interests of medicine, and an example of their wisdom is the Institute of Biochemistry opened on Wednesday last at the Middlesex Hospital. This admirable department will be directed by Prof. E. C. Dodds, who has himself brought back much that is valuable from his expeditions into unknown and difficult country. As he pointed out at the opening ceremony at the Institute (reported on p. 195), it is apparent that biochemistry "has already given us great and generally admitted benefits which are a tremendous encouragement to the pursuit of the study." The victories of the pioneers, he said, have already passed into the routine of medical practice; but while so much remains unknown the investigators—however many—are still pioneers. The new Institute will be an admirable starting-point for fresh endeavour.

CHARLES CREIGHTON.

WE regret to announce the death of Dr. Charles Creighton, the learned epidemiologist, which occurred on Sunday, July 17th, at Upper Boddington, where he had lived for some time in retirement. He was in his eightieth year, and will be but a memory to most students of medical history, while his industry and erudition, which will be commented upon in a future issue of THE LANCET, won for him no commensurate position in the world.

BASAL METABOLISM IN THYROID DISEASE.

Dr. Eggert Moller, of the University of Copenhagen, has recently published [1] investigations, by the Krogh method,[2] into the basal metabolism in thyroid disease. His results are interesting, but serve rather to prove the usefulness of this particular method than to throw any new light on the problems of basal metabolism in thyroid disease. The Krogh closed-circuit apparatus seems to possess certain advantages for clinical work, the chief of which is its simplicity; several estimations can be made within an hour, and a graphic record provides an accurate control of the patient's respiration and enables the observer to read off the oxygen consumption directly from the curve. The results have been found to agree satisfactorily with those obtained by other methods. Opinion is almost unanimous at the present time that this test is the best guide to the state of activity of the thyroid gland, and though, like all laboratory tests, it has its limitations, it offers information which clinical observations by themselves could not supply. A large number of records of the basal metabolism in thyroid disease have now been made, both in America and Germany and in this country. Dr. Moller's findings agree closely with them. He again raises the question, however, whether the metabolism is always above normal in Graves's disease. A few years ago J. H. Means [3] called attention to a group of what he called borderline cases, in which the clinical signs of the condition were well marked though normal metabolic readings were obtained. Dr. Moller has found the same thing in his series of patients, and he too is of the opinion that a normal metabolism should not exclude a diagnosis of Graves's disease. It must be remembered that there are certain conditions in which the basal metabolism will give a frankly incorrect impression in diagnosis, unless the previous history of the case is accurately known. For instance, patients with myxœdema who have been receiving thyroid extract, or those with Graves's disease in a period of remission, may still retain many of the phenomena of the disease, and yet show a normal metabolism. These considerations show that any slavish adherence to the test as an index of diagnosis is inadvisable. The value of estimating the basal metabolism seems to lie especially in the differential diagnosis of doubtful cases and in following the effects of different methods of treatment. There is no doubt

[1] Acta Medica Scandinavica, 1927, Supplement xxi.
[2] Dansk Medicinsk. Selskab's Forhandl., 1921, p. 3.
[3] Arch. Int. Med., 1919, xxiv., 645.

that since the introduction of this test the usefulness of certain therapeutic measures has been placed on a surer footing. This is notably the case with the various forms of operation. When this kind of treatment was first undertaken, the largely subjective and impressionist reports about the results were unfavourably received by the profession. Nor did sceptics become convinced until estimations of the basal metabolism were employed to show numerically what had been accomplished. The same is true of the treatment of Graves's disease by radium or X rays, and more recently by iodine. The very definite advance made with iodine in the last few years can, in fact, be largely attributed to the introduction of methods which make it possible to follow accurately the course of the disease.

THE TEACHING OF TUBERCULOSIS.

THE differentiation of function in public health administration does not always make it easier to teach medicine to students. One by one diseases are being removed from the list of those which a general teaching hospital may treat in its wards, and are being relegated to the special hospital—often to State hospitals with no facilities for instruction. Tuberculosis is one of the latest and most conspicuous examples of this apparently inevitable trend of modern organisation. As the dispensary system develops, with its connecting links of sanatoriums and hospitals for surgical tuberculosis and advanced cases, fewer patients are treated at the general hospitals. It would be no exaggeration, indeed, to say that the newly qualified doctor has had little opportunity of studying the life-history of pulmonary tuberculosis, and although this disease is still one of the commonest causes of death in this country many men go out into general practice ill-equipped to coöperate in the comprehensive antituberculosis scheme which has been developed since the report of the Astor Committee.

Two recent handbooks for the student and practitioner form a useful contribution to this task of teaching the main outlines of pulmonary tuberculosis. The one, "Tuberculosis of the Lungs,"[1] is a practical guide for general practitioners, written by Dr. H. Hyslop Thomson and Dr. A. P. Ford, who have charge of the tuberculosis scheme of Hertfordshire; the other, "Pulmonary Tuberculosis,"[2] by Dr. G. T. Hebert, physician in charge of the Tuberculosis Department of St. Thomas's Hospital, comes from the experience of a teacher. The first is a condensed survey of the subject from historical summary to after-care and employment. It is orthodox and reasonable, and it omits nothing of vital importance, though it breaks no new ground. The practitioner is instructed in the administration of tuberculosis schemes and helped to visualise his own important position in them; chapters are devoted to diagnosis in general practice, domiciliary treatment, after-care and employment, prognosis—that most difficult of subjects—and the nursing of tuberculous patients, all of which are part of his daily life. The authors have managed to get a remarkable amount of information into the compass of a small handbook. It is a moot point, however, whether it might not have been better to let some of less important portions, such as the historical summary, go by the board, and to have given more space to subjects which harass the general practitioner—e.g., the care of the phthisic whom the sanatorium or hospital has sent home to die. Dr. Hebert's book is written from a different standpoint, that of the teacher who wishes to emphasise the main points in the clinical study of pulmonary tuberculosis. The examination of the patient, the study of his symptoms, the interpretation of the radiogram, and the description of special complications, such as hæmoptysis, pleurisy, and pneumothorax, all have the right emphasis laid upon them in the right place. Fibrosis of lungs, also, which so frequently confuses the beginner, is clearly described, whilst the chapter on physical signs contains tables and diagrams which we believe are quite new and original, and which should prove of great value to the student. One of the best chapters in the book is that on the evaluation of evidence. It would be difficult to exaggerate the importance of this subject, and Dr. Hebert's common-sense outlook, clear thinking, and experience have combined to make his treatment of it really brilliant.

Both these books, we believe, will find a place in the teaching of tuberculosis. They approach the subject from different angles, but they should help to focus attention on the real need which exists for the instruction of the student and the newly qualified graduate in an important subject.

[1] Tuberculosis of the Lungs. By H. Hyslop Thomson, M.D., D.P.H., and A. P. Ford, M.R.C.S., L.R.C.P., D.P.H. London: Baillière, Tindall and Cox. 1927. Pp. 179. 10*s.* 6*d.*

[2] Pulmonary Tuberculosis. By G. T. Hebert, M.A., M.D., M.R.C.P. London: Edward Arnold and Co. 1927. Pp. 212. 7*s.* 6*d.*

LIVING CYTOLOGY.

A BEAUTIFULLY illustrated paper by the late Dr. T. S. P. Strangeways and Dr. R. G. Canti appears in the last number of the *Quarterly Journal of Microscopical Science* (1927, lxxi., 1). It describes the appearances which can be made out by skilful dark-ground illumination of living cells in tissue-cultures and the changes which are produced by flooding the specimen with various fixatives while under observation. The descriptions and figures are worth careful study. In brief, it was found that no cell-wall, nuclear membrane, or Golgi apparatus was visible—which is not, of course, to say that they were not there—nor were spindle fibres seen in cells in mitosis. On the other hand, the nucleus, nucleoli, mitochondria, fat globules, cytoplasmic granules, and pigment rods were quite distinct, and a lively account is given of the writhing of the mitochondria. All the fixatives tried produced more or less precipitation of fine granules in nucleoplasm and cytoplasm; except osmic acid, they all caused shrinkage of the cell, especially chromic acid; several reagents had a curious effect in causing discrete globules of fat to run together; anything containing acetic acid distorted or destroyed the mitochondria and an appropriate fixative brought the mitotic spindle into sight at once. Generally speaking, the old idea that osmic acid produces least change is confirmed, and there is a remarkable note that light dissolves cells which have been fixed in chromic mixtures. Altogether the paper is a very valuable contribution to the rationale of cytological methods.

ROCKEFELLER PUBLICATIONS.

VOL. LIX. of the collected reprints which are issued from time to time as Studies from the Rockefeller Institute for Medical Research is a portly book of 660 pages containing 50 papers and an index. The quality of the different items is as high as usual; some, perhaps, are rather dull and many are tantalisingly incomplete owing to the prevalent habit of publishing a number of small papers rather than waiting till such progress has been made as will justify a solid account which must often (though not always) be rather bulky. But we have learned to be confident that Dr. Simon Flexner will not allow very much that is only "fair to middling" to emerge under the auspices of the Institute which he controls. The range of subjects dealt with is very wide, as necessarily follows from the policy of the organisation in securing good brains and letting them go where they will. Looking down the table of contents, we are struck again by the fact that very little of the research is directly medical. Indeed, in the present volume there is but one clinical contribution (on the effect of digitalis on auricular premature contractions) from the hospital attached to the Institute, and of the others one of Dr. Noguchi's papers on Oroya fever is the least remote from practical work. Our know-

ledge of the foundations of medicine is outstripping its clinical applications. The truth is that exact laboratory work is much simpler than ward work of anything like equal precision. The really inferior part of the volume is the organisation of its production; the classification in the list of contents is bizarre and the index is useless. In these days of mass production good indexes are worth care.

A second publication emanating from the Institute gives an account of its constitution, organisation, and equipment, and illustrates the means by which the Studies are produced. The scientific staff numbers 100. We have also received from another branch of Mr. Rockefeller's benefactions, the Rockefeller Foundation, the seventh number of the accounts, which appear from time to time under Dr. R. M. Pearce's direction, of the fabric and equipment of buildings used for medical education. It contains an interesting and well-illustrated account of the new school of medicine and dentistry which was opened at Rochester, New York, last autumn. The most noticeable feature is the inclusion of the departments of anatomy, physiology, and biochemistry, as well as those of pathology and bacteriology, in the same building as the hospital wards. Unity of purpose and work is without doubt best achieved in this way, and many schools have been slow to realise that a separation in space which seems trivial may mean an isolation of interest. The detailed accounts of the various departments will be very useful to those who are occupied with new buildings. A good many of the rooms pictured seem to be rather badly lit, and the workers who appear in the photographs look preternaturally earnest and strenuous.

ANAPHYLAXIS AND URTICARIA.

THE conception that the cutaneous reaction known as urticaria might be a manifestation of the anaphylactic state was advanced by Wolff-Eisner soon after the peculiar phenomenon of anaphylaxis was first observed in animals. The theory has received much support, and it is generally acknowledged that although there is a wide difference between the condition of an animal which has been reinjected after an interval of ten days with some foreign protein and a patient suffering from urticaria, yet there is a relationship between the two states. A case jointly reported by Pasteur Vallery-Radot, P. A. Carrié, P. Blamoutier, and M. Laudat,[1] seems considerably to strengthen this view.

The patient was a woman, aged 28; after undergoing moderate exertion for a few minutes she not only suffered from a profuse urticarial rash but also showed signs of dyspnœa, vertigo, profound cardiovascular disturbances, and collapse—her condition closely resembling that of an animal suffering from true anaphylaxis. A detailed examination of the blood and cardiovascular system revealed a further similarity, for the patient was found to have leucopenia, moderate eosinophilia, fall of blood pressure, and albuminuria shortly after each attack. From the description given it does not appear that for any considerable time after an attack the patient experienced the protection which is observed in animals for at least ten days after anaphylactic shock.

Urticaria following muscular effort has been previously recorded on more than one occasion, and with the knowledge that an animal—and probably man—cannot (with the exception of the lens) be sensitised by its own tissues, the phenomenon is difficult to explain. The possibility that histamine released from the tissues is the exciting cause must be considered, for this substance is known to produce urticaria, and also a condition closely allied to anaphylactic shock, when injected into animals or man. Dr. Vallery-Radot and his collaborators regard their patient as one of a group "atteint d'instabilité colloidoplasmatique," in which at times physical effort may produce urticaria, asthma, migraine, or even shock. The case is of still further interest inasmuch as a cure was apparently achieved by two injections of sodium thiosulphate. It was found that the alkaline reserve of the blood was subnormal, and in view of this deficiency sodium bicarbonate was administered by the mouth. This raised the alkali to within normal limits, but did not prevent the attacks. The same salt given intravenously did, however, partly relieve the patient. On the assumption that the relief was in reality due to the desensitising power of sodium bicarbonate, and not to its influence on the alkalinity, the neutral salt, thiosulphate of soda, which is known to have similar desensitising power, was given intravenously on two occasions. Each injection was followed an hour later by vomiting, headache, and tremors, a condition which reminded the authors of the nitritoid crises which sometimes follow the injection of the arsenobenzol compounds. The patient was duly rewarded, however, for although she had suffered from these distressing attacks for a year and a half they now ceased. Apparently the shock produced by the injections of this neutral salt in some manner modified the unstable or allergic state of this patient, thereby enabling her to resume her customary habits without further inconvenience.

[1] Presse Médicale, June 11th.

INTERNATIONAL OPHTHALMOLOGICAL CONGRESSES.

FOR two years an Anglo-American committee has been preparing the ground for a revival of the international ophthalmological congress held every four or five years before the war. The last step was to call a conference to frame the constitution, and the friendliness and unanimity which characterised last week's meeting at Scheveningen soon made it easy to achieve the common aim. The success of the conference (which we report in another column) must largely be attributed to the unbounded hospitality shown by the Dutch hosts. None of the delegates will readily forget the kindness of Prof. van der Hoeve and others who provided delightful opportunities for the delegates to meet one another, and no one who visited Scheveningen will voluntarily miss the congress to be held at Amsterdam in September, 1929. Meanwhile, ophthalmologists in all countries may well be grateful to those who worked hard to achieve these ends, and we note with especial pleasure the election of Mr. Treacher Collins as Hon. President of the International Council and of Mr. Leslie Paton as its treasurer.

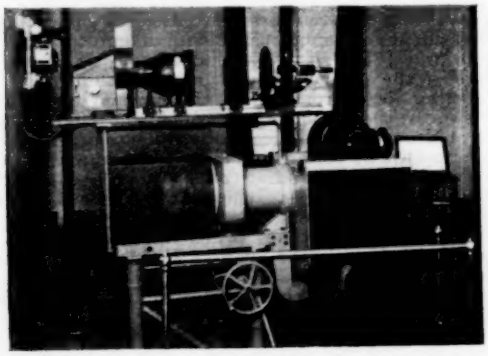
MEDICAL RESEARCH IN THE COLONIES.

A PROPOSAL for the establishment of a joint committee of the Colonial Office and the Medical Research Council was endorsed by the recent Colonial Office conference. The Secretary of State for the Colonies, in consultation with the Medical Research Council, has now appointed the Colonial Medical Research Committee with the following terms of reference: "To advise the Secretary of State and the Medical Research Council upon the initiation and promotion of medical research in the interests of the Colonial Empire; upon the recruitment and conditions of service of the necessary personnel; and upon the management and allocation of any funds available for these purposes." The Committee will also investigate proposals for the creation of a Colonial Medical Research Service and for the payment from a pool of grants to medical institutions which are considered to deserve the support of Colonial governments.

The Committee has been constituted as follows: The Right Hon. W. Ormsby-Gore, M.P. (chairman); Sir George Maxwell (deputy chairman); Members: The Secretary of the Medical Research Council, Sir Walter Fletcher; and the Chief Medical Adviser to the Secretary of State for the Colonies, Dr. A. T. Stanton, *ex officio;* Prof. J. W. W. Stephens; Sir Leonard Rogers; Dr. Andrew Balfour; Dr. Charles Todd; Dr. P. H. Manson-Bahr; and Dr. C. M. Wenyon.

THE NEW EPISCOPE AT THE ROYAL SOCIETY OF MEDICINE.

THE new Zeiss epidiascope—or episcope as it is called—which has been installed in the West Hall of the Royal Society of Medicine as part of a memorial to the late Sir John MacAlister, has a number of interesting features. Designed to project on the screen images of opaque objects, such as books, drawings, and flat specimens, as well as of objects in jars in a vertical position, it was found necessary to construct a revolving front to the apparatus. As this would, of course, give an inverted picture on the screen, when the plane mirror is in use, a special roof mirror was designed, both mirrors being housed together in a metal casing at the top of the revolving front. To change from one mirror to the other it is only necessary to move the small lever on the right of the apparatus. A 30-ampere arc lamp has been fitted with a specially worked



mirror, and to prevent any damage occurring to the specimens from the heat of the lamp a water-cooling chamber is interpolated between the lamp and the object stage. Mounted above the episcope is a table carrying two optical benches and a small 5-ampere arc lamp. This lamp is so constructed that it can be moved instantly from one bench to another. One optical bench is fitted with special condensing lenses provided with iris diaphragms, adjustable sole plate and microscope for the projection of microscopic objects; to obtain the desired size of picture on the screen a special eyepiece was designed. At the recent demonstration of the episcope to Fellows of the Society a picture of a microscopic object under a 1/12 inch oil-immersion objective was projected a distance of 32 feet, lighting and definition both being excellent—a great technical achievement. The second optical bench is fitted with large condensing and projection lenses, a double lantern slide carrier, and the other requisites for the projection of lantern slides of various sizes. The projection of large X ray plates is also carried out on this optical bench. The problem of projecting such large plates in a vertical position presented many difficulties, and was only solved after a long series of experiments. The instrument has been designed with interchangeable fittings, each having a little numbered celluloid disc inserted in the metal base, a corresponding disc being fitted to the optical bench showing the correct position. In scope and adaptability this episcope greatly exceeds anything hitherto used in this country; both the Society and Messrs. Carl Zeiss, of Jena, are to be congratulated on its installation.

RETIREMENT OF PROF. J. A. MACWILLIAM.—Aberdeen University Court has received intimation from Prof. J. A. MacWilliam, M.D., F.R.S., that he is retiring from the Chair of the Institutes of Medicine (Physiology) in the University, which he has held for 41 years; a minute of the appreciation of Prof. MacWilliams's work has been passed by the University Court. The patronage of the chair is vested in the Crown.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

CCXXXIII.—CHRONIC PANCREATITIS.

DURING the last few years the place taken by chronic pancreatitis as one of the common diseases of digestion has become more and more apparent, and its treatment has become a question of considerable importance. Chronic diseases of the pancreas may result in interference with the functions of the islands of Langerhans or with the alveoli. In the former case one of the types of diabetes may result, and in the latter the disturbance is mainly concerned with the external secretions of the organ. It is with this type of disease that the present article deals. Glycosuria is sometimes a transient sign in these cases, but it is seldom severe and only very rarely persists. There are two main types of chronic pancreatitis, catarrhal and chronic interstitial.

(1) *Catarrhal pancreatitis* is characterised by periodic attacks of nausea, vomiting, and diarrhœa, with bulky stools laden with undigested fat. The attack is nearly always heralded by a bout of shivering and a feeling of vague abdominal discomfort which may amount to definite epigastric pain, which is then generally associated with pain referred to the back beween the scapulæ. Catarrhal pancreatitis due to infection which may enter the main pancreatic duct from the common bile-duct or duodenum, or may be carried into the organ from the liver by lymphatic vessels.

(2) *Chronic interstitial pancreatitis* may be of three types, interlobular, interacinar, and a degenerate lipomatosis. The interlobular is the common variety, and the one principally associated with interference with the external secretion. The symptoms are less acute than with catarrhal pancreatitis. There is diminution rather than suppression of the external secretion; thus, diarrhœa and nausea are rare. On the other hand, there is marked interference with the digestion, particularly of fat and protein, and intestinal intoxication is pronounced. Flatulence is the prevailing symptom, but most of these patients suffer a good deal of pain in the form of an aching back. This form of pancreatitis is due to infection from the liver or gall-bladder, which is carried to the pancreas by the lymphatics.

Chronic pancreatitis always appears to be secondary to some other chronic inflammatory process in the abdomen. In the majority of cases this is a disease of the gall-bladder; sometimes the pylorus or duodenum are at fault, and occasionally the cause appears to be in the appendix. Wherever the primary focus, it must be remembered that the treatment of the pancreatitis can only be a part of the general treatment of the causative disease.

To remove the primary focus is an axiom of surgical treatment; here is a possible exception. No case of chronic pancreatitis is cured by cholecystectomy alone. Even after removal of the primary infecting focus, the diseased pancreas must be coaxed back to health by strict attention to diet, drainage, and drugs.

Diet.

This should be chosen with two main objects in view: (1) relieving the strain on pancreatic digestion; (2) limiting the amount of intestinal decomposition.

Carbohydrates.—The burden of carbohydrate digestion must, as far as possible, be thrown upon the saliva. Prolonged mastication of carbohydrate food is essential. Bread should be cut thin, toasted, and eaten cold. Potatoes and "milk puddings" should be avoided. Crisp carbohydrate breakfast foods having a maize basis are particularly to be recommended. They should be eaten in conjunction with, but not soaked in, fruit juice and a little cream. The cream inhibits the flow of gastric juice, and so prolongs the period of active ptyalin digestion within the stomach.

Fats.—Fat digestion is accomplished almost entirely through the medium of the lypolytic ferment contained in the pancreatic juice, assisted by the action of bile. The amount of fat in the diet must, therefore, be reduced to a minimum. Unsaponified fat clothes small particles of protein, and so renders them inaccessible to the action of digestive juices, and encourages putrefaction. Fat must be rigidly excluded from the protein meals. Pork, bacon, and all forms of fat meat are to be avoided. Duck, goose, and all water fowl are rich in fat, and must also be proscribed. Of the more common fish, salmon, eels, herrings (fresh or cured), red mullet, mackerel, and halibut contain

too much fat to allow of their being included in the diet. No fat must be used in cooking, so that fried food and all sorts of pastries are excluded. The only forms in which fat may be given are cream and butter. They must be used very sparingly, and given only with pure carbohydrate meals. Where there is jaundice or diarrhœa from catarrhal pancreatitis, fats are forbidden altogether.

Proteins.—The digestion of proteins is shared by pepsin, trypsin, and erepsin. The bulk of the work, however, is borne by the pancreatic secretion. Proteins should be given in a form, therefore, that will most easily be dealt with by the stomach and succus entericus. Meat may be taken sparingly once a day, and must be lightly cooked and preferably minced, so that the maximum amount of pepsin digestion may be obtained. Fish, except those mentioned under the paragraph on fats, may be substituted for meat in the single protein meal that is allowed each day. Eggs should not be taken. Raw egg is not digested at all by the stomach, and little by the succus entericus, so that, with the failure of pancreatic juice, they leave a large residue for bacterial decomposition, and, according to Dr. Langdon Brown, the relatively large amount of sulphur contained in them makes them more prone to putrefactive changes.

Fruits, green vegetables, and salads, except radishes, may be taken in moderation, but salad dressings containing fat and egg should be omitted, and cooked vegetables, particularly spinach, must be innocent of butter.

Beverages.—Milk, tea, beers and stout, and sparkling wines are to be avoided. Nothing should be drunk during meals except at dinner, when one glass of good, dry, white wine or a small whisky, which should not be "drowned," will aid the gastric digestion. No alcohol should be taken between meals.

Drainage.

Drainage in chronic pancreatitis is employed, first, to relieve congestion of the organ by evacuation of its mucus clogged ducts, and, secondly, in order to remove infected material from the neighbouring bile passages, and so to minimise the amount of reinfection of the pancreas. Drainage is obtained in two ways: by the use of the duodenal tube and by operation.

Drainage of the pancreatic ducts through the *duodenal tube* involves practice in the handling of the tube by the doctor, and considerable patience on the part of the subject. The method I use is that advocated by Lyon, with a rubber tube of about 2 mm. in diameter, with a wall sufficiently thick to resist atmospheric pressure, and having a perforated silver acorn, 1 cm. by 0·3 cm., at the distal extremity. I do not have markings on the tube, as I find that only by experience in the use of the method, or by the use of the X rays, can the exact position of the tube in the stomach or duodenum be determined.

After a fast of about 15 hours the patient is propped up in the sitting position, and the tube, lubricated with glycerine, is swallowed until the acorn is lying well within the gastric cavity. This is determined by the cessation of retching. The patient is allowed to remain in the sitting position for two or three minutes, and then is placed on the right side, with the foot of the bed slightly raised and the head resting on one pillow. By this manœuvre the weighted extremity of the tube is allowed to hang down in the stomach over the pylorus. A 20 c.cm. syringe is attached to the tube, and some of the stomach contents aspirated. They will be found to be copious in quantity and opalescent in appearance. The patient is told to swallow the tube about half inch at a time, with an interval of about a minute between each swallow. A little water in a feeding cup may be given to the patient to assist in swallowing; in the majority of cases this is unnecessary. With the progress of the tube through the stomach, repeated aspiration should be practised in order to determine the relative amount of gastric juice present. It is found that when the tube enters the pyloric vestibule the amount of gastric secretion obtained by aspiration is only 4 to 5 c.cm. at a time. Swallowing the tube must then proceed very slowly, or it is apt to become curled up in the stomach. When the acorn end of the tube first touches the pylorus there is always a reflex attack of retching. This may be very short, only one descent of the diaphragm being noted. A careful watch should be kept, or this will probably be missed. No further attempt should be made to swallow the tube until a final and much more emphatic heave demonstrates the passage through the pylorus; now gentle traction on the tube will indicate the fact that the distal part is gripped by the pylorus. Further traction on the tube will start retching by pressure of the acorn on the distal side of the pylorus. Aspiration generally is unsuccessful in producing any fluid, but occasionally a little thick glary mucus can be extracted from the duodenum. The tube is now slowly swallowed for about three inches, until its extremity becomes approximately over the ampulla of Vater.

The patient may now turn over and lie on the back in a more comfortable position; the head may be raised if desired. A solution of 25 per cent. magnesium sulphate is used in the majority of cases to stimulate the flow of bile and pancreatic juice. A solution of peptone is often more active than magnesium sulphate in stimulating a flow of pancreatic juice, but the latter has the advantage of being cheap and readily obtainable. After the injection of about 40 c.cm. of the solution into the duodenum, repeated aspirations with the 20 c.cm. syringe are made, the plunger is withdrawn and pushed back, so that no fluid is actually removed from the duodenum. From five to ten minutes elapse before a change is noted, and then the solution becomes tinged with yellow. The colour of the fluid will get gradually deeper as the proportion of bile to magnesium sulphate solution increases. During the next three-quarters of an hour the duodenal contents must be slowly removed by aspiration, and it may be found necessary to repeat the injection of magnesium sulphate into the duodenum two or three times. It is no part of the present article to describe the collection of specimens of pancreatic fluid for diagnostic purposes.

Drainage by operation should be done at the time of the primary operation for dealing with the infecting focus from which the chronic pancreatitis arises. In the great majority of cases the operation is for cholecystitis complicated by gall-stones. If chronic pancreatitis be present, as indeed it is in a very large percentage of old-standing cases, drainage of the biliary passages is imperative. The failure to relieve digestive symptoms by the operation of cholecystectomy for treatment of gall-stones is generally due—this is the essential point—to the overlooking of pancreatitis and the failure to provide and maintain adequate drainage.

Much may be said of the relative merits of drainage of the biliary system through the gall-bladder or through the common bile-duct. Where there is any possibility of the ampulla of Vater or the terminal part of the common bile-duct becoming occluded by pressure of a sclerosing pancreatitis or other cause, the gall-bladder must be preserved, as it may be necessary ultimately to resort to cholecystoduodenostomy; but where there is advanced inflammatory disease of the gall-bladder it is better to remove the viscus and drain the common bile-duct. Draining must be maintained for several weeks. Where pain is a prominent feature of chronic pancreatitis, relief may be obtained by incising the peritoneum on the antero-superior surface of the pancreas.

Drugs.

Drugs serve two purposes. They may disinfect the pancreatic ducts after being secreted by that organ, or they may be used to control intestinal putrefaction. Sodium salicylate and aspirin are the only pancreatic disinfectants that appear to be of much value. I am indebted to Dr. Victor Schektor, of Boulogne, for the following prescription. Take the juice of four lemons in a large jug. Add sodium salicylate 20 gr., and sodium bicarbonate 30 gr. When the effervescence has subsided, add one bottle of Vichy water. Stir well, and drink a glass full at a time, consuming the whole quantity in 24 hours.

For the control of intestinal putrefaction two drugs of particular merit are oil of cloves, which should be prescribed in a pill, and calomel taken in small doses.

For those whose means allow, a prolonged course of treatment at a spa is generally beneficial. Little benefit is derived in these cases from treatment by dried pancreas or pancreatic extract. In extreme cases food may be prepared partially digested with pancreatic extract, but it is very unpleasant to take.

The Outlook.

The treatment of chronic pancreatitis calls for a considerable exercise of patience both on the part of the doctor and the patient. But no case should be despaired of, and although in the more advanced stages of the disease cure seems to be unobtainable, yet very great relief of symptoms may be confidently expected.

H. E. GRIFFITHS, M.S. Lond., F.R.C.S. Eng.,
Surgeon, Albert Dock Hospital.

Special Articles.

EMANCIPATORS.*

BY HARVEY CUSHING, C.B., F.R.C.S.,
PROFESSOR OF SURGERY, HARVARD MEDICAL SCHOOL.

IT has been given to few so to identify themselves with great benefactions to human-kind that the bare mention of their names will for ever suggest equally the man and his legacy. We may celebrate the discovery of anæsthesia as a great boon, with disputed remembrance of those who made it possible; or we may remember a name like that of Pinel and recall, some of us but vaguely, what it was he did for humanity's sake.

Rarely is it safe to prophesy any durability of recognition, whatsoever the accomplishment. Fame that is contemporary, fame that for a time endures, and fame that actually accumulates differ in quality as differ the flash of a meteor, the glow of a comet, the permanence of a fixed star. Only when the contemplation of both the man and his achievement truly inspires and ennobles us will they remain indivisible, to be praised by the people for time everlasting.

On a May morning a few weeks ago, with the depth of emotion the spot engenders, I stood at the portal of the Lincoln Memorial in Washington looking upon that marvellous seated figure of the Emancipator there enshrined. And as I read again those familiar phrases spoken at Gettysburg, there came to mind how comparable were he and Lister in their service to the proposition that all men are created equal. Lister freed man from the shackles of sepsis; Lincoln a race from those of slavery. Yet how different the men, their medium of service, and the manner by which the seemingly inevitable was thrust upon them.

Who have made the greatest gifts to their fellow-man? Those who have left an idea that has supplied, like the utterances of Christ, what minds have yearned for? Those who have added to his physical comforts and have found ways to lessen hunger and want? Those who have added to his conveniences and devised means to lighten his labour? Those who have, like Lincoln, freed him from bondage, and, like Lister, released him from the horror of suppuration? One answer certainly can be made: that only when the gift requires great self-denial, and only if the giver be one that walketh uprightly and worketh righteousness and speaketh the truth in his heart, will he, like St. Francis, come to be canonised and for ever blessed.

Often when issues are critical, circumstances so combine as to bring the right man, at the right time, to the right place. But rarely is an individual so caught up in the vortex of a revolution in thought as unmistakably to be at its very centre. It is idle to speculate whether the opportunity more often makes the man, as was perhaps true of Lincoln; or the man the opportunity, as was more apparently the case with Lister. All that matters is that the conjunction should take place. The opportunity of doing something of lasting benefit to our kind doubtless lies before us all. Yet, even have we the imagination to realise it, we want the courage to grapple with it, the tenacity to hold it, the persuasiveness and unselfishness which can alone make converts and disciples.

Whereas circumstances pitchforked Lincoln into his position of responsibility, Lister, horrified at the condition in which he found surgery, deliberately elected to crusade against the most serious obstacle in the way of its advance. Were these men accidental or inevitable? Suppose they had been born into the world 50 years earlier or 50 years later, would they have been unknown and unnamed? Would their particular form of genius have found an outlet for its expression at any place and time? Or were they victims of circumstance, each in his different sphere, singled out by the finger of destiny for a significant rôle which some other might well enough have filled? Was it mere chance that the anti-slavery movement came to be focused on Lincoln? Did Lister happen to make himself the focal point of the movement to banish sepsis merely because Pasteur's studies of fermentation gave the clue, and because the science of bacteriology, already conceived by him, was about to be born to smooth his path?

What preparation had either of these two? An obscure, uncouth, backwoods lawyer, the very product of the soil, Lincoln was suddenly by God's will lifted to an eminence where, surrounded by hostility and innuendo, he must shoulder burdens and make decisions affecting the permanency not only of a nation but of the institution of slavery as well. In Lister's case, what preparation? An utterly different background, to be sure, yet also a sensitive man to whom strife was hateful, he too was drawn by God's will into a position where, faced by opposition and misrepresentation, he must make a fight for the truth. And why? Simply because he had set out, innocently enough, to answer questions. Why does the pupil contract? Why does the blood coagulate? and later: Why do wounds fester? To this well-hidden secret he found an answer in which others, to whom lives were entrusted, must be made to believe.

We may well doubt whether blind fortune could have lifted from the crowd any more practical, humane, and earnest men, equally far removed from motives of self-interest, who could have filled, as they did, their difficult and lonely places. What was to be done must be done largely single-handed, for when numbers are concerned in mighty decisions it is a matter of uncertainty whether they will add to the confidence or the discouragement of him who must lead at any cost. Faith they had, soon conviction, and ere long experience. "The only faith," it has been said, "that wears well and holds its colour in all weathers is that which is woven of conviction and set with the sharp mordant of experience." Both faced situations without precedent and arrived over untried ways through the process of reasoning and experiment—one that a nation's life might not be lost, in conducting a war of principle, for want of a moral hold on itself; the other that the lives of countless people, irrespective of nationality, might not be sacrificed because of scepticism and ridicule.

Exceedingly little was the encouragement received from their professional brethren. Belief in Lincoln rested with the common people; it was the students who gave testimony to Lister when others doubted. As one met a hostile neutrality abroad, so did the other at home. But the more they were tried, the stronger they became; for both had that sweet reasonableness of disposition which is not embittered by hostility, and each the honesty to admit whatever of truth there might be in adverse opinion. The cautious but steady advance of Lincoln's policy during the war and of Lister's experiments during his patient struggles to get at the truth left a well-paved road behind them along which anyone, not blind, could follow and be convinced.

Lincoln was spared much of what Lister endured. Had Lister possibly been the victim himself, as other surgeons have been, of an accidental wound infection after he had made his great demonstration, he too might have been enrolled as a martyr and have escaped the trials and humiliations to which he was long subjected. An awkward civilian during times of great military achievement, Lincoln has left behind him the memory of a grace higher than that of mere breeding, a fame beyond that of any conqueror. Lister was to the manner born; yet he also, so strong and persuasive is honest manliness, has left the memory of that nobility of soul which makes him kin to all mankind.

*An Address delivered at the Lister Centenary Celebration at Edinburgh on July 20th.

One for an ideal; the other for an idea. One by proclamation; the other by demonstration. To establish the ideal took countless lives. Because of the idea more lives are saved each year than were lost in that prolonged civil war. But it was Lincoln who at the time of trial put into words for a people what Lister for a profession might have said with little change—as a dedication for us the living to the great task remaining before us:—

> With malice toward none, with charity for all, with firmness in the truth as God gives us to see the truth, let us strive on to finish the work we are in; to bind up the people's wounds, to care for him who shall have borne the battle, and for his widow, and his orphan—to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations.

The act on which Lincoln's life centres itself is not that for which an adoring nation has put a halo round his memory. Rather have a people, once divided, come to look upon him as expressing what they would wish to have represent them before the world. He thereby has become a symbol from which his countrymen reap a harvest of precious associations. So may our profession reap from Lister's life something far more precious than pride in his accomplishment and the satisfaction of claiming him as our own, that spiritual harvest which comes from the example of an unblemished character, for kindness, meekness, and comfort were in his tongue. Though lives die, the life is not dead; and the memory of lives such as these will be for ever shared, not by a profession alone, not by a nation alone, but by the whole brotherhood of men.

INTERNATIONAL OPHTHALMOLOGICAL CONGRESSES.

THE Convention of English-speaking Ophthalmologists, at a meeting held in London in 1925, asked its President, Mr. Treacher Collins, to nominate a small committee, whose function it would be to try to bring about a renewal of the periodical international ophthalmological congresses which, before the war, were held every fourth or fifth year. Mr. Collins nominated Dr. Edward Jackson (Denver), Dr. George de Schweinitz (Philadelphia), Sir John Parsons and Mr. Leslie Paton (London), as members of this committee, and himself acted as its convenor. The work of the committee during the last two years resulted in the calling of a conference at Scheveningen last week from July 12th–15th, which was attended by 48 delegates, representing 25 different nationalities. Of these delegates, one came from Chili, Dr. Thierry; two from the Argentine, Dr. Arganaraz and Dr. Demaria; two from Japan, Prof. Hata and Lieut.-Comdr. Tagawa; two from the United States, Dr. de Schweinitz and Dr. Parker; and two from Egypt, Dr. Meyerhoff and Dr. Riad. All the principal European nations except Russia, Turkey, and Greece were represented.

Much of the great success of the conference was due to the hospitality and forethought of the Dutch hosts, Prof. van der Hoeve (Leiden), Prof. Rochat (Groningen), President of the Netherlands Ophthalmological Society, and Dr. Marx (Leiden).

On Tuesday, July 12th, a preliminary meeting was held in the Orange Hotel, Scheveningen, at which Prof. Rochat welcomed the delegates equally eloquently in English, French, German, and Italian. Mr. Collins explained the circumstances which had led up to the summoning of the conference, and gave a short history of the previous international congresses. He then moved that Prof. van der Hoeve should take the chair. Mr. Leslie Paton (London), Dr. Marx (Leiden), and Dr. Pflüger (Berne) were nominated to act as secretaries of the conference. The principal motion—"that the International Congress of Ophthalmology be reconstituted"—was carried by acclamation, and committees were appointed to consider: (*a*) rules and by-laws; (*b*) the place and date of the first meeting of the new Congress, and the subjects for discussion; (*c*) finance; and (*d*) the questions of international ophthalmological importance that should be remitted to the Council for discussion.

On the evening of Tuesday the Anglo-American Convening Committee entertained the delegates to dinner at the Palace Hotel. On Wednesday the committees met in the morning, and in the afternoon members of the conference were the guests of Prof. van der Hoeve in an excursion by car and steamer to Leiden and the lake district in the neighbourhood. In the evening, Mr. and Mrs. van den Bergh gave a dinner and a garden party in their beautiful garden at Wassenaar near The Hague.

Decisions of the Congress.

On Thursday morning the reports of the committees were received. Invitations had been received from Denmark, Egypt, and Holland for the first Congress, and from Spain for the second Congress. It was unanimously decided that the first Congress should be held at Amsterdam in September, 1929. The new rules and by-laws were unanimously adopted by the conference.

The subscription was fixed at £2 sterling, or an equivalent sum, for Members, and £1 for Associates.

Apart from the expenses of the Congress itself, a fund would be required to meet the expenses of the International Council, to hold office in the period intervening between the Congresses. Already a certain amount of expense had been incurred in preparation for this conference. To meet these and other Council expenditure it was resolved to ask for voluntary subscriptions of not more than £5, or less than £2, from ophthalmological or other medical societies, or from individuals. Any society subscribing will be entitled to receive a copy of the Transactions of the Congress for its library. In this way it is hoped to secure a sum sufficient to meet the expenses of the Council other than those directly connected with the Congress.

The management and finances of the Congress itself will be controlled by a national committee, elected by the ophthalmologists of the country in which the Congress is to be held, and working in conjunction with the International Council.

The Council was asked to decide on the subjects for discussion, both at the Congress and by special committees to be appointed by the Council.

An International Council was appointed, to hold office until the Congress of 1929. It consisted of Prof. van der Hoeve (Netherlands), chairman; Prof. Lundsgaard (Denmark), vice-chairman; Mr. Leslie Paton (Great Britain), treasurer; Mr. Marx (Netherlands), secretary; Prof. Axenfeld (Germany); Dr. Byers (Canada); Prof. Coppez (Belgium); Prof. Marquez (Spain); Prof. Meller (Austria); Dr. Morax (France); Prof. Ovio (Italy); and Dr. de Schweinitz (United States). As the concluding act of the conference, Mr. E. Treacher Collins was elected Honorary President of the International Council by universal acclamation, as a tribute to the work he had done towards ensuring the success of the conference and the future of international ophthalmology.

After the end of the formal business of the Congress the delegates were taken by cars to Nordwyk-on-Sea, where they were entertained to lunch by Prof. van der Hoeve, whose health was proposed in eloquent Latin by Prof. Ask, backed up in English by Dr. de Schweinitz, in German by Geh. Prof. Axenfeld, in English by Prof. Arganaraz, in Italian by Prof. Ovio, and in French by Dr. Velez. After lunch the delegates visited the palatial new ophthalmic clinic at Leiden, and looked with envy on the spacious rooms and accommodation provided there for ophthalmological work.

COVENTRY HOSPITAL.—Mr. W. R. Morris has given the cheque for £15,000 to the Coventry and Warwickshire Hospital which he promised on condition that the hospital carnival committee raised over £5000 by its efforts.

NEW WAR MEMORIAL HOSPITAL AT SELBY.—Viscount Lascelles has promised to open the new Memorial Hospital at Selby on Oct. 4th. Princess Mary laid the foundation-stone of the new building, which is costing £16,000, last autumn.

BRITISH MEDICAL ASSOCIATION.

REPRESENTATIVE MEETING, EDINBURGH.

THE annual Representative Meeting opened in the McEwan Hall, Edinburgh, on Friday, July 15th, under the chairmanship of Dr. H. B. BRACKENBURY. After some formal business, the Chairman recalled the fact that the patron of the Association, H.M. the King, was in residence at Holyrood and a message of humble and loyal greeting was sent.

Lieut.-Colonel F. O'Kinealy, I.M.S. (retd.), was appointed the representative of the I.M.S. on the Council for 1927–30; Dr. F. G. Thomson, immediate past-President, was elected a vice-President of the Association, and it was agreed that Sir Ewen Maclean be elected President for 1928–29. In thanking the meeting, Sir Ewen Maclean recalled the fact that the Representative Body had had its birth in Wales and said he believed he was the first President who had ever previously held the office of chairman of the Representative Body.

It was agreed that the annual meeting for 1929 should be held in Manchester and for 1930 in Winnipeg, Canada, and that a book of signatures should be instituted to form a permanent record of membership of the Representative Body.

In moving the adoption of the annual report (preliminary), Sir ROBERT BOLAM, chairman of Council, remarked that although the Association as a whole had been unable to take steps towards forming a Jenner Museum at Phipps Cottage, offered by Lork Berkeley for that purpose, nevertheless local members were taking action in the matter.

Locum Bureaux.

In 1925 the Representative Body instructed Council to form a bureau for the provision of locum tenents and assistants. Sir Robert Bolam reported that it was not practicable for the Association to run such a bureau, but an arrangement had been entered into with the Scholastic, Clerical, and Medical Association, Limited, whereby the British Medical Association held a half interest in the agency's shares and one half of the board of directors were to be members of the Association. Thus influence would be exercised to ensure that the work of the agency is conducted on lines consonant with the policy of the B.M.A. For the duration of this agreement the agency was to be allowed to use the title "British Medical Bureau." There would be slight advantages for B.M.A. members, but the agency would continue to be run on business lines.

A motion from Gateshead, protesting at this action of the Council without further reference to the Representative Body, was withdrawn after discussion.

Civic Welcome.

The Lord Provost of Edinburgh (Mr. ALEXANDER STEVENSON), with the President-Elect of the Association, Sir ROBERT PHILIP, then entered the hall. The Lord Provost, welcoming the meeting to his city, referred to the especial regard and pride which the municipality had always felt for its medical faculty and also to the coincidence of the Association's visit with the centenary of Lord Lister. Dr. BRACKENBURY briefly replied.

Sir ROBERT BOLAM announced that Mr. W. E. Hempson, solicitor to the Association for 27 years, had conveyed his resignation to the Council. He proposed that Mr. Hempson be elected an honorary member of the Association. This was carried amidst loud applause.

Finance and Organisation.

The Treasurer, Mr. BISHOP HARMAN, reported that there was an exceptionally good balance sheet and a large increase of membership, the year's surplus being twice what had been anticipated in their budget.

Dr. MORTON MACKENZIE, proposing the adoption of the annual report under "Organisation," outlined the proposed scheme for the formation of groups within the Association. It had been found, he said, that certain members engaged in special practice could not get their views and particular difficulties adequately expressed through the ordinary machinery of the Association. In such cases it was suggested that the Council should have power to form a group. The group meeting would appoint a committee of six which might meet twice a year at the head office and at other times by consent of the Chairman of Council; their expenses would be paid in the usual way. The findings of this committee would be placed before the appropriate standing committee. If the latter agreed with them it would incorporate them in its own recommendations to Council, but in any case the findings of the group committee must be placed before the Council, which might invite a representative of the group to attend its deliberations on the matter. The annual meeting of the group was to be held at the time and place of the annual meeting of the Association, in order that the members might realise that they were a part of the B.M.A.

The Harrogate division put forward two amendments which, after some discussion and verbal emendation, were accepted by the Chairman of the organisation committee. They read:

(1) That the Council be asked to consider that, subject to the approval of Council, the Executive Committee of the group should define the qualification for membership of the group, and (2) that the annual group meetings should be held, if the time of the B.M.A. annual meeting were found inconvenient, and with the approval of the Council, at such other time as the Executive Committee of the group may think desirable.

The formation of groups was opposed by Dr. J. MIDDLETON MARTIN, of Gloucester.

Dr. R. GORDON (Bath) said that the Association of Spa Practitioners had been opposed by several B.M.A. members, who had only consented to its formation when they found that the existing organisation could not meet their need and when they had been assured that the Council hoped soon to evolve a scheme whereby the group could be taken under the wing of the Association.

Mr. BISHOP HARMAN said that the existing machinery was not elastic enough; some years ago a number of ophthalmic surgeons had been obliged to band themselves, and pathologists had similar difficulties. The proposed expansion would not affect the fundamental constitution.

Sir ROBERT BOLAM assured the meeting that it need have no fears for the constitution of the Association, which was being carefully guarded.

The motion was carried.

Dr. MORTON MACKENZIE then reported that there had been an increase of 1800 in the membership during the year past, including 700 new members from overseas, whence came most encouraging reports. The South African organisation was now established and working well; all that the members there had wanted had been achieved. There were now 50 overseas branches. At home the principal activity had been in the direction of increased local scientific work. The lecture on Cancer by Sir Berkeley Moynihan in the spring had convinced them that the occasional provision of such a lecture, after careful preparation and with a kind press, was a valuable factor in convincing the public that the Association had the public health at heart. Excellent recruiting work had been done among the newly qualified, especially in Glasgow, where 90–95 per cent. often joined up; last May 100 per cent. of those qualifying became members.

Dr. J. B. MILLER brought forward a proposal by Lanarkshire:

That the Council be instructed to consider the taking of such steps as are necessary to secure that members attending meetings of Council and Central Committees be paid reasonable out-of-pocket expenses in addition to railway fares.

He pointed out that although there had not been, and probably would not be, any difficulty in obtaining

the services of the best people to do the work of the Association, yet many of them gave those services at considerable personal loss. Members who travelled backwards and forwards daily were allowed double or triple fare, but it would be much better for them to spend that allowance on a quiet bed in town. He suggested a scale similar to that allowed for civil servants absent from their homes on duty.

Dr. PETER MACDONALD (York) supported the motion, saying that the time had come to consider this matter very earnestly. Those who did the work of the Association had to be selected on the worst basis of all—a pecuniary one—and the best man was sometimes excluded. The matter would be costly, but he wished the treasurer would give up trying to think as a Scot, as the efficiency of the work would be greatly enhanced.

Mr. BISHOP HARMAN opposed the motion on the ground that it would be only logical to include the whole Representative Body, which would mean an increase of nearly 100 per cent. on the present cost of meetings. The finances would not bear this. In the past, local efforts had met such financial difficulties as had arisen. He deprecated the tendency to require equivalents for work done and gloried in voluntary work.

Dr. MILLER contrasted attendance at the Representative Meeting, in fine weather and pleasant surroundings, with journeying to London in a November fog to serve on a central committee. His motion was carried.

New Buildings.

After lunch the meeting was resumed in the anatomical theatre, where Sir ROBERT BOLAM (chairman of the building committee) gave a lantern demonstration of proposed extensions to the present house in Tavistock-square. The Association, he said, was already bound to take over the houses adjacent to its strip of private road, an area of 11,240 square feet, at a cost of £12,000. It now had the opportunity to acquire further blocks on either side of these, the northern one falling in in 1934 at a cost of £90,000 and the southern in 1938 at a price of £100,000. By securing the long lease of these two additional blocks the Association could erect a magnificient building, completed about 1940, at a total cost of £310,000. The finances of the Association would enable this to be done without great difficulty and without interfering with the present activities and reasonable expansion of other work. Nor would there be any need for borrowing, for their credit was good enough to cover the whole expenditure if necessary. He spoke eloquently of the importance of taking the long view in this matter, of the asset which would be left to the profession by the generation which undertook such an outlay and of the power of money, power of position, and enhanced prestige at home and abroad that such a home would assure. He was supported by the treasurer, the solicitor, the three oldest members present, and by a number of other speakers. All paid enthusiastic tribute to Sir Robert Bolam's capability, courage, and statesmanship in conceiving the scheme, carrying it through against much preliminary opposition and presenting it so lucidly to the meeting. After two or three questions had been asked and answered the report of Council under "Building" was carried unanimously and with applause.

The British Medical Journal.

Dr. J. A. MACDONALD, proposing the adoption of the annual report of Council under "Journal," reviewed the work and progress of the *British Medical Journal*. There had been a steady increase in circulation and in income from advertisements. The Association had also published the *Archives of Disease in Childhood* and the *Journal of Neurology and Psychopathology*.

DR. L. A. PARRY moved, on behalf of Brighton:

That, whilst recognising the responsibility for all that appears in the *British Medical Journal*, and its supplement, as defined in Article 38 of the Association, the Representative Body is of opinion that those periodicals should be open to communications from any members commenting, favourably or otherwise, either on the policy of the Association in regard to the medical and allied sciences or on a communication inserted by a department of the Association.

He related a personal experience in this connexion and protested against the restriction of free discussion on controversial subjects.

Dr. C. O. HAWTHORNE said that the principle involved was the position of the Editor. No capable man could accept a situation in which he might be called upon to receive 30,000 letters, on any subject, each of them having the right to appear within the columns of his journal. The Brighton motion took away from the Editor his responsibility for what appeared in the journal and left him only the question: Is this a communication from one of my 30,000 masters and necessarily, therefore, to be inserted? There was no halfway house between trusting an editor and dismissing him.

Dr. J. A. MACDONALD said that it was not correct to say that a member might not use the columns of the journal to criticise one of the committees. In this case it was the action of the Council, which had given instructions for a strong propaganda movement, which the letter would have weakened.

Sir ROBERT BOLAM said that the only mistake the Editor had made was in attempting to give a reason for refusing Dr. Parry's letter. Dr. Parry would see that it was impossible to conduct a scientific journal on the lines laid down in his resolution.

The motion was lost.

A motion by Plymouth, asking that local meetings should be reported more fully and conspicuously, was lost.

Edinburgh and Leith brought forward two motions for the improvement of the journal. The first, asking that the proceedings of the annual meeting should be printed in one volume, was opposed by the Chairman of the committee on the grounds of impracticability, and was lost. The second, requesting the Council to consider the possibility of improving illustrations, was answered by Dr. Macdonald in a careful statement of the technicalities and cost of reproducing pictures, and was withdrawn.

Medical Ethics.

In proposing the adoption of the report of Council under "Ethics," Dr. LYNDON brought forward the recommendation—

That the Representative Body considers it undesirable that there should be inserted in the medical press or in other publications primarily intended for the medical profession any advertisement of a therapeutic institution which includes any laudatory statement of the form of treatment given, or the private address or the consulting-rooms or hours of a member of the medical staff; but that there is no objection to the name and qualifications of medical officers of the institution being given.

He reminded the meeting that in 1924 the Representative Body had decided that the advertisement of institutions professing to provide medical advice and treatment, together with the name of the resident and visiting medical officers, were unobjectionable. It had since been found that some of these advertisements were open to objection in that they contained laudatory statements of the treatment offered and the private addresses and consulting hours of medical officers.

Dr. F. RADCLIFFE (Oldham) drew attention to the effects of this resolution on institutions such as the Cheadle Royal Asylum, which published an advertisement giving the hours and place at which patients or relatives might consult the medical officer in Manchester. Questions elicited the fact that in this case the doctor was not seeing private patients for his own gain. There was some discussion, in which Mr. McAdam Eccles and Dr. R. Langdon Down took part. There was general agreement that advertisements in which the particulars were inserted for the doctor's private gain were undesirable, the difficulty, as Sir Robert Bolam pointed out, being to adjudicate in any instance. Finally it was agreed, on the motion of Dr. F. Radcliffe and Dr. J. D'Ewart

(Manchester) to amend the resolution by substituting the words:

"or the address, or the consulting-rooms, or the hours of a member of the medical staff at which he sees private patients" for the words "or the private address or the consulting-rooms or hours of a member of the medical staff."

Dr. S. P. KAPADIA (Bombay) made an eloquent appeal to the meeting to stiffen the standard of medical ethics by refusing to allow any reference to the medical officer at all. His amendment was seconded by Dr. D. ROXBURGH (Marylebone), but was not carried.

Dr. LYNDON, moving the remainder of the report, remarked that it had not been found desirable to draw up an ethical code, other than that laid down in the "Handbook for the Newly Qualified." Nor did the Council consider necessary any further extension of the existing machinery for dealing with professional disputes.

Dr. C. H. MILBURN (Harrogate) deplored the number and character of signed contributions from medical men in the press and thought the best way of dealing with abuses was to educate the younger members. He proposed on behalf of his division, and carried, a resolution:

That the Council be instructed to consider any further steps which may be thought necessary for the instruction of senior students or newly qualified practitioners in medical ethics.

The proposal was supported by Dr. J. F. WALKER (Southend).—Sir ROBERT BOLAM and Dr. LYNDEN reminded the meeting that much was already being done in the medical schools, both by example and by precept. The General Medical Council had satisfied itself that the attention of authorities had been drawn to the need for such instruction and had advised the teaching bodies in 1922 that students should be grounded in the subject.

SATURDAY, JULY 16TH.

In the absence of the chairman, owing to indisposition, the chair was taken by the deputy chairman, Dr. C. O. HAWTHORNE. While he, as chairman of the Science Committee, was dealing with that portion of the annual report, Dr. WALLACE HENRY, immediate past-chairman, presided.

Pathological Institutes and Reports.

Dr. HAWTHORNE said that as a result of complaints from members in private practice as pathologists that they were being unfairly treated, the Council had carefully considered the position of advertisements of pathological institutes and of commercial and public health laboratories. The Council had adopted the following general propositions:

(*a*) That in the interests of medicine and of medical practice the status and professional values of the private practitioner of pathology should be more generally recognised;

(*b*) That the practice of clinical pathology should be conducted in accordance with the professional customs and ethical principles that govern other specialised departments of medical practice;

(*c*) That so far as possible, and this especially in difficult and obscure cases, the pathologist and the practitioner in charge of the patient should meet in consultation;

(*d*) That a practitioner engaged in private practice as a pathologist is at liberty to notify the fact, together with his professional address, to medical practitioners within the area of his practice;

(*e*) That in no circumstances should a pathological report be furnished to any person other than a qualified medical practitioner.

Later on in the meeting Dr. PARRY moved, for Brighton, an amendment, accepted by the chairman of the Science Committee, to insert words making it clear that dental practitioners are included throughout. It had been decided, said Dr. Hawthorne, that the Association should discourage, or at least abstain, from encouraging laboratories governed by purely commercial and advertising ambitions, partly because of the unfair competition they set up with the private pathologist who could not and had no wish to advertise, and partly because there seemed no logical end to the departments which might be set up as side lines to a commercial firm. If such firms ran clinical laboratories and gave reports on pathological material, why should they not run X ray departments, or, indeed, why not provide a consulting surgeon or physician to furnish clinical reports? The Council was convinced that the status and professional values of the private practitioner of pathology should be more generally recognised. Their attitude was expressed in four recommendations, some of which aroused considerable interest and discussion. The first was:

That the Representative Body disapproves of the establishment by trading firms of laboratories as subsidiary enterprises for the purpose of offering pathological examinations and reports on individual cases, and advises members of the Association to avoid any association with such enterprises.

This was carried unanimously. The second was:

That in the opinion of the Representative Body all institutions undertaking pathological examinations and reports should include in any intimation made to the profession the name of the registered medical practitioner in charge of the laboratory, and that each report issued from the laboratory should be guaranteed by the personal signature in writing either of this practitioner or of some other registered medical practitioner approved by him.

This, Dr. Hawthorne explained, was to put a stop to the "communal guarantee" of institutions and to insist on the personal responsibility of the individual reporting on a specimen. It was carried.

The third recommendation stated:

That in the opinion of the Representative Body public health authorities should neither provide for pathological examinations nor furnish pathological reports on individual cases, except (i) in cases which directly involve questions of public health, or (ii) where provision is made for such reports by statutory right, or (iii) when the patient is stated by the practitioner to be, in his opinion, unable to pay a fee.

Dr. L. A. PARRY, proposed but failed to carry an amendment by Brighton to delete the third paragraph of this resolution; he said that once it was admitted that public authorities should investigate pathological conditions they came into competition with private pathologists. There was ample provision for poorer patients.

Dr. HAWTHORNE objected that time might be an essential element in an examination, and said it was a mistake to be too scrupulous about the methods by which the required information was obtained in such cases.

Dr. C. E. S. FLEMMING (Salisbury) said that the resolution would involve the setting up of another laboratory for each area where there was only a public health laboratory in existence. This duplication would imperil the work. In neither of the two small institutions would there be such good equipment or such wide and varied experience as in the one big one, and work would be taken away from private pathologists.

Dr. G. CLARK TROTTER (City) strongly supported the motion. He pointed out that it was not incumbent on the public health authority to do these examinations. It was for the medical officer of health to decide whether they were in the interests of the public health or not. Indiscriminate swabbing of throats might be performed as a placebo, or among contacts from whom nothing could be learned. Often it was more valuable to do a pathogenicity test on throat swabbings than a culture.

Dr. H. S. BEADLES (Romford) looked forward to the day when the pathological laboratory would be open to all cases; at present the work in public health institutions was limited to diphtheria, syphilis, typhoid, and tuberculosis, although some of them would do other investigations at a fee which was considerably lower than that of the private pathologist. He knew of only one laboratory where it was possible legitimately to get investigations made for panel patients; this was in a town where the work was done municipally for everybody.

Dr. J. STEVENS (Edinburgh) protested at Dr. Clark Trotter's claim to decide without seeing a case whether the investigation required by the doctor in charge were necessary or not.

Dr. S. C. DYKE (S. Staffs) urged the absolute necessity of bringing the pathologist into closer touch with the patient. The public health laboratory and the laboratory attached to a voluntary hospital were two different matters; in one case bulk was an important factor, in the other the primary consideration was the individual specimen in relation to the individual patient. In all districts there was an opening for laboratories of both kinds. Most private pathologists were attached to hospitals which could not pay the fees of a whole-time man.

Dr. E. W. G. MASTERMAN (Camberwell) described the peculiar arrangement in his borough where the proposed policy was being carried out at the present time. There was a large Poor-law hospital with a pathological laboratory where all the work of the hospital was done, which was also the municipal laboratory. The pathologist had his own laboratory and assistants where he did private work. The arrangement worked admirably. The voluntary hospitals in the district could not possibly undertake the work done at this institution, and it was not correct to say that this kind of work could only be done at a voluntary hospital.

Mr. H. S. SOUTTAR (Marylebone) said that there was a dilemma here. The general practitioner required pathological reports at the earliest possible moment, and expressed in the clearest possible manner the private pathologist was trying to make a living and the hospital pathologist wanted the maximum possible experience. He suggested amending the resolution by inserting the words "where other pathological facilities are available" after the first clause.—Mr. MCADAM ECCLES seconded this and it was carried after a discussion.—Sir ROBERT BOLAM pointed out that conditions varied greatly in different areas and the prescribed procedure must be kept very elastic.—Dr. HAWTHORNE said that the burden of deciding where other facilities were available would be too great for the Council to bear.

Dr. R. A. LYSTER (Hants) urged that the motion be referred back to Council on the ground that Mr. Souttar's amendment had produced an impossible situation—viz., interference with the responsibilities of local authorities. The motion as amended would hold the Association up to ridicule. Pathologists at present were not a well-established branch of the profession; their future, in his opinion, lay very largely in the development of public health facilities by the local authorities. From these the practitioner also benefited and there was a general tendency now to extend them. Fullest advantage was taken of them and they were much appreciated where they were available. They provided employment for pathologists; the terms of employment were essentially a matter for the B.M.A. The patients benefited by the scale of fees suited to their means. The effect of this motion, if it could be carried out, would be to deprive a large number of patients of pathological help. Thus the three classes of people involved, pathologist, practitioner, and patient, all stood to lose by the resolution. These services, whether for poor or rich, must be developed as one service. The development of a public service for poor people in many directions had produced bad muddles.

Dr. C. E. DOUGLAS (Fife) seconded the proposal to refer back. He said that in Scotland the local authorities always dealt with the examination of specimens sent by practitioners.

Dr. DYKE said that there was a fourth consideration besides those of pathologist, doctor, and patient, and that was the advancement of medicine. This demanded the closest contact between patient and pathologist, which was best served by placing the pathological work concerned with the individual patient in the laboratories of the hospital. He did not agree that the future of the pathologist lay with the public health authorities; it lay in the laboratory of voluntary hospitals. He supported the amendment.

Dr. HAWTHORNE accepted the reference back, which was carried.

He then proposed the fourth recommendation of Council:

> That where a pathologist attached to a hospital or medical school undertaking pathological work as a general service does such work for persons able to pay fees, the fees paid for such examinations (subject to such charge for the use of the laboratory as may be arranged) should be the property of the pathologist and should be a matter of private arrangement between the pathologist and the person for whom the examinations are made.

Whereupon an amendment to refer this also back to Council was put forward by Dr. J. HUDSON (Newcastle), who said the proposed arrangement was impossible. This was seconded by Dr. J. STEVENS (Edinburgh) and supported by Dr. F. RADCLIFFE (Oldham), who said that it would put the pathologists in an extremely awkward position. They were whole-time officers of a governing body and they were expected to ask this body to accept a fee for permission to use the laboratory as a private one for part of the time. The day would come when the governing body would observe that their officer was giving much of his time to private work and would consider either his dismissal or the reduction of his salary.

Dr. P. MACDONALD (York) said that the scheme could quite well be carried out, and was being carried out in his own district.

Dr. R. BROCKMAN (Sheffield) quoted another instance where the scheme was working well; the safeguard in this case was that private practice was permitted provided that the staff of the infirmary were satisfied that the work of that institution was being efficiently carried out.

Dr. H. BEADLES (Romford) said that the scheme could not be worked in very large areas, but Dr. HAWTHORNE replied that this type of appointment was not that under consideration in the recommendation.

The amendment was not carried and the original recommendation was passed by the requisite three-fourths majority.

Some discussion arose on an amendment by Brighton to the last clause of the general propositions (vide supra). Dr. PARRY wished to add the words "except at the request of the practitioner" to the phrase stating that reports should only be furnished to a doctor. In places with a moving population like Brighton the requested report might not be ready before the patient left. Mr. BISHOP HARMAN strongly opposed this proposal, pointing out that it was simple for the doctor to forward on the report; the practitioner who had asked for it wanted to see it and he might not want the patient to. The amendment was rejected.

Dr. R. FORBES (Gateshead) thought that all advertisements of commercial pathological institutes should be excluded from the journal and brought forward an amendment to that effect. He mentioned the "transition" type of laboratory, run often by a group of practitioners as a limited liability company. These cut out the private pathologist by charging lower fees, and Gateshead thought it would be better and more consistent with the attitude of the Council towards these institutions if they were not allowed to advertise.

Dr. H. WOODROFFE (Norwich) supported this; he thought that the private pathologist was being left in competition with mass production. If these concerns were to advertise, the private pathologist should be able to also, and that would open the door to advertisements from any branch of the profession.

Dr. HAWTHORNE said that the proposal was ideal, but not practical at present. Many of the institutes had done good service to the profession by providing facilities unobtainable elsewhere. Sir ROBERT BOLAM appealed to Gateshead to leave the matter in the hands of the Council without summary direction, and the amendment was rejected.

Research Work of the Association.

In moving the remainder of the annual report under "Science," Dr. HAWTHORNE referred to the scholarships and grants, especially mentioning a grant to the Paddington Green Hospital special scheme of investigation into child rheumatism. The Stewart Prize, he said, had been awarded to Sir Malcolm Watson in recognition of his work in freeing large tracts of tropical Malaya from malaria, and the Sir Charles Hastings Clinical Prize for a general practitioner to Dr. J. S. Manson, of Warrington, for an essay entitled "Observations on Human Heredity."

In moving the adoption of the supplementary report under "Science," Dr. HAWTHORNE brought forward the motion:

That the Representative Body approve the Council's proposals for the carrying out by the Association of the scheme submitted for collective investigation by individual medical practitioners.

This refers to a proposed collective investigation on varicose ulceration and the after history of gastro-enterostomy. The inquiry is to be conducted, through the divisional machinery of the Association, in the early autumn.

Dr. DOUGLAS pointed out that it was no new thing for the Association to bring together the collective experience of its members; it had been done in the 'sixties. Work on pneumonia and the communicability of phthisis collated in the 'eighties had by now become part of our general knowledge.

Dr. C. E. S. FLEMMING congratulated the Council on the scheme and asked what was to be done with the returns received. He suggested that they should be discussed at branch meetings and at the sections of the annual meeting.

Dr. HAWTHORNE replied that Dr. A. P. Luff, consulting physician to St. Mary's Hospital, had consented to give his services in collating the material. The Ministry of Health had also promised the help of one or more experts in formulating questions and analysing answers.

Municipal Maternity Hospitals.

Proposing the adoption of the report under "Medico-Political," the chairman of that committee, Dr. J. W. BONE (Luton), brought forward the motion:

That inasmuch as the liability of local authorities for the payment of a medical practitioner called in on the advice of a midwife extends over a period of four weeks from the birth of the child, it is not desirable to suggest that the period of responsibility of local authorities should be extended.

This was agreed to, and Dr. FORBES, on behalf of Gateshead, then proposed to amend a resolution passed last year—viz.:

That where a general practitioner is called upon to render assistance at a confinement in a municipal maternity hospital, the fees payable to such practitioner should not be less than the scale of fees approved by the Ministry of Health for the payment by local supervising authorities to medical practitioners called in on the advice of midwives, under Section 14 of the Midwives Act, 1918,

by inserting after the words "a confinement" the words "or for any condition arising directly out of parturition."

Dr. BONE accepted this and proposed the further recommendation of Council:

That the principle of remuneration on a salaried basis for consultative services to municipal maternity hospitals is not unreasonable, but that the actual salary must be governed by the circumstances of each particular case—i.e., the amount of work required and the time occupied—and should bear some relation to the remuneration laid down in the following Minute 95 of the annual representative meeting, 1926. Resolved: That where a consultant is called in by the practitioner in charge of the case the fee should be for the consultation not less than three guineas and for a major operation not less than ten guineas.

This was accepted.

Administration of Anæsthetics by Dentists and N.H.I. Patients.

Dr. BONE reminded the meeting that the Representative Body in 1910, in approving the evidence given on behalf of the Association before the Departmental Committee on Coroners Law, &c., approved inter alia the following:

(1) That it should not be permissible for any person other than a registered medical practitioner or a registered dentist to administer any anæsthetic for medical or surgical purposes.

(2) That registered dentists should be permitted to administer nitrous oxide and local dental anæsthetics, but no other anæsthetics.

(3) That it is undesirable that any person should act both as operator and administrator in the same case where this can be avoided, but it must be recognised that cases occur in practice, especially in sparsely populated districts, in which this responsibility must occasionally be undertaken.

This policy, he said, had now become obsolete, since dentists received special instruction in the use of anæsthetics. A new policy was, therefore, suggested in the following terms:

(1) That no person other than a registered medical practitioner should administer any anæsthetic for medical or surgical purposes, except that a registered dentist may administer anæsthetics for dental purposes only;

(2) That where a general anæsthetic is administered it is undesirable that any person should act both as operator and administrator in the same case where this can be avoided, but it must be recognised that cases occur in practice, especially in sparsely populated districts, in which this responsibility must occasionally be undertaken.

This proposal aroused considerable discussion. Opposition to the new attitude took two main lines: First, that dentists should not be allowed to administer anæsthetics; and, secondly, that it was no business of the Association to express an opinion on what the dentists should do. The first objection was expressed in three amendments, from Willesden, from St. Pancras, and from Birmingham.—Dr. C. F. SCOTT, speaking to the first, said that the General Medical Council had done a wrong thing in allowing instruction to dentists in administration of anæsthetics other than nitrous oxide. Some dentists were becoming professional anæsthetists. There was great danger in this.

Dr. TEMPLE GREY (Marylebone) pointed out that it did not suffice to be specially trained in the administration of anæsthetics; an anæsthetist must know how to treat cases when they go wrong. These were cases of poisoning, and the only man who could be safely trusted to handle a case of poisoning was a duly qualified medical man, who was also the only person in a rightful position before the coroner if death should ensure. Nevertheless, the amendments by Willesden and St. Pancras were lost.

Dr. G. DAIN (Birmingham) then moved:

That the recommendation be amended by the insertion in the second line of para. (1) between the words "dentist" and "may" of the following words: "who has received special instruction in the administration of anæsthetics."

Dr. W. MARRIS (Birmingham) pointed out that dentists themselves had recognised that some of their number were properly qualified to administer anæsthetics while others were not. If their regulations made a distinction there could be no harm in this amendment.—Dr. BONE and Dr. TEMPLE GREY objected strongly on the ground that it was no business of the doctors to adjudicate between the dentists.—Dr. DAIN replied that the Association had held for years that only qualified medical men ought to administer anæsthetics. This policy was now to be modified because there was another body of men trained to give anæsthetics. But the Dentists' Register contained the names of thousands of people who had had no such instruction.

The Birmingham amendment was carried, and on the motion of Dr. D'EWART and Dr. P. MACDONALD the final clause was altered so that the policy as passed read:

(1) That no person other than a registered medical practitioner should administer any anæsthetic for medical or surgical purposes, except that a registered dentist who has received special instruction in the administration of anæsthetics may administer anæsthetics for dental purposes only;

(2) That where a general anæsthetic is administered it is undesirable that any person should act both as operator and administrator in the same case where this can be avoided,

but it must be recognised that cases occur in practice, in which this responsibility may justifiably be undertaken.

Dr. BONE then moved :

That the fees for medical practitioners administering anæsthetics for dental operations (as an additional benefit under the National Health Insurance Acts), be as follows : (*a*) For the simple administration of nitrous oxide or a similar anæsthetic, 10*s*. 6*d*. if only one patient is dealt with, but if more than one patient is dealt with at the same time and place the fee should be 7*s*. 6*d*. per patient ; and (*b*) that for other administrations, whatever the anæsthetic, the fee should be one guinea.

An amendment from South Shields proposed to insert the word " minimum " before " fees " in each instance, and others by Worcester and Sheffield desired to make the fee in all cases one guinea and half a guinea respectively, but Dr. Bone pointed out that a bargain was being struck and it was no use passing resolutions asking for unobtainable fees. The scale had been carefully considered in committee. The amendments were all rejected, and after a discussion on emendations of the word " simple " by substituting " short " or " safe " or by omitting it, the motion was carried as proposed.

Dr. BONE then proposed and carried the recommendation of Council :

That it is inadvisable to press for the amendment of the Midwives Act, 1918, in order to secure that local authorities be made responsible for antenatal work to any greater extent than is at present the case.

Dr. M. W. RENTON (Dartford) proposed to refer the matter back to Council for a review of the difficulties of the general practitioner. Local authorities were taking not too little but too much responsibility and much antenatal work was being done by whole-time officers, while midwives were being educated to do the practitioner's work.—Dr. C. FLEMMING concurred, saying that it had come to be expected that district visitors should take pelvic measurements. This was due to the reticence of practitioners in undertaking the work.

Dr. H. M. RAVEN (Kent), Dr. HOWARD STRATFORD (Kensington), and Dr. MIDDLETON MARTIN (Glos.) supported Dr. Renton and urged the importance of keeping antenatal work in the hands of the doctor.

Dr. BONE agreed with the speakers but pointed out that the motion under discussion dealt solely with fees, having arisen out of a resolution of last year's Representative Body on that subject. What was wanted was to find out how the private practitioner could be used to get better antenatal treatment for the people. It was decided to allow Dr. Renton to withdraw his amendment at this stage, and to discuss the matter later.

Orthopædic Treatment.

The Council's report submitted a memorandum on orthopædic hospitals and clinics which came up for discussion under the motion :

That the specialist work of orthopædic treatment, whether at hospitals or clinics, should not be done by whole-time officers, but, on a part-time basis, by surgeons who need not necessarily be devoting all their attention to orthopædic work.

There was a strong feeling among a small section of the members that this would prejudice the quality of the work done. The objection was crystallised in an amendment by Windsor :

That orthopædic treatment, whether at hospitals or clinics, should be undertaken by those who have special knowledge of the subject, and as the needs of the patient to receive the most experienced handling are paramount, no restrictions should be placed on the appointment of full-time officers.

and in another by Miss E. H. JEBENS (Lambeth) and Dr. W. A. SWANN (St. Pancras) to omit the words after " basis." Both were rejected.

Another amendment, which failed, proposed by Dr. E. W. MASTERMAN (Camberwell), seconded by Dr. HOWARD STRATFORD (Kensington), sought to modify the motion by inserting the word " necessarily " or " usually."

Among those supporting the original motion was Dr. E. R. FOTHERGILL (Brighton) who maintained that the interests of the patient and of the doctor were always identical and that there was a serious menace in these clinics to the general practitioner and his work ; the general practitioner, he said, had been, was, and would be the best for the public to look to.—Dr. R. GORDON (Bath) declared that if whole-time officers were appointed to the clinics the general practitioner lost his interest in orthopædic conditions, and it came to pass that these children were never seen by anybody but the specialist, who was apt to treat them without consideration for any other condition from which they might be suffering.—Mr. H. S. SOUTTAR (Marylebone) said that the vast mass of orthopædic surgery in the country was being very well done by general surgeons and deprecated the increasing employment of whole-time workers. The physician, surgeon, or practitioner who was engaged in a general practice could deal far better with any case he took up than could the specialist.

Among those opposing the motion were Dr. G. F. OLDERSHAW (Liverpool) and Dr. DYKE. The latter said that his division considered that orthopædic surgery was a highly specialised technique which did not fall within the province of the general practitioner. There should be coöperation between the surgeon and the patient's own doctor.—To bring about this coördination, said Dr. F. J. HATHAWAY, replying for the Windsor amendment, was the proper duty of the British Medical Association. In so great a profession there must be specialists, and the general practitioner was always able to go up to the clinic and consult about his patients ; in general he was only too pleased to get the best advice he could about them.—Sir RICHARD LUCE said that any advance in surgery had been through a certain amount of specialisation and to pass so general and so sweeping a motion would be a most dangerous thing. It was wrong for the patient and disadvantageous for surgery that the patient should not have the opportunity of consulting a specialist.

Mr. MCADAM ECCLES observed that the thorough treatment of any case could only follow from close coöperation of four people—the orthopædic specialist, the general practitioner, the mother or nurse, and the patient. Orthopædic surgery had got into an anomalous position through a difference of opinion as to what cases belonged to it ; it was not such a wide speciality as many people seemed to think. Specialists were needed at the clinic to see the patient, in the first place at any rate, and general practitioners were needed to take their cases up to the clinic.

Dr. BONE pointed out that the suggestion was to train in each locality men capable of doing the special work.

Eventually the Council's recommendation was carried. The second recommendation,

That existing institutions should be utilised to their fullest extent,

passed without comment. The third was,

That the private practitioner should have free access to the work at hospitals and clinics for the purposes of observation and training, and that his services should be fully utilised by giving him a definite position in the scheme both at the clinic and in the domiciliary care of cases.

In answer to a question, Dr. Bone said that this meant full access to all cases in the hospital, not only his own.

Dr. LEWIS LLOYD (South Carnarvon) pointed out the difficulties that would arise if the patient of one practitioner in a small village were handled and discussed before his colleagues.

The final motion on this subject,

That the arrangements laid down in the B.M.A. scheme for school-children and maternity and child welfare clinics should apply equally in regard to orthopædic clinics,

brought an amendment from East Norfolk :

That the following words by added :—

But that efforts should be made to secure that a more stringent scrutiny be exercised in deciding which cases are, or are not, necessitous, than has been done under

omparable schemes for medical examination and treatment by Education Authorities.

In proposing this, Dr. H. WOODROFFE pointed out that in rural districts many people sent their children to the local school because there was no other. They could quite well afford ordinary fees, but were classed with the others as unable to pay anything. This victimised the general practitioner and the specialist.

The amendment was carried. The arrangements, as thus amended, read :

Briefly stated, the policy of the Association as regards treatment of school-children is to the effect (1) that treatment by an Education Authority should be confined to those children whose parents cannot afford to pay privately for treatment, parents being recommended to secure treatment for their children from their family doctor ; (2) that medical treatment and the treatment of refraction should be carried out by private practitioners; (3) that treatment of the children should normally not be carried out through voluntary hospitals, and that in cases where the work is so carried out, there must have been previous consultation with the hospital medical staff, who should be paid for this work ; (4) that where treatment by private practitioners (whether general practitioners, specialists, or both) is adopted, it should be by means of a "Treatment Centre" or clinic (for Model Scheme, *see British Medical Journal* Supplement, May 8th, 1915, p. 228), or, in sparsely populated districts by "recognition" of places where the local practitioner(s) should carry out the necessary treatment ; (5) that where practitioners in an area are desirous of carrying out treatment of school-children found defective, they should through the Division make representation to the Local Education Authority and place a scheme before that body ; (6) Divisions desirous of placing a scheme of treatment by local practitioners before the Local Education Authority will have the full support of the Association, but for purposes of coördination such schemes should be submitted to the Head Office of the Association prior to being forwarded to the Education Authority ; (7) that it is not part of the policy of the Association to resist the adoption of some other scheme preferred by the Education Authority on the ground that it involves the employment of whole-time officers for the purpose of treating necessitous children ; (8) that a scheme for treatment might be a combination of whole-time and private practitioners ; (9) that there is no objection to treatment by provident dispensaries, public medical services, or other contract medical practice organisations, provided the remuneration of the practitioners is adequate and that effect be given to the principle of free choice of doctor and of patient ; (10) that any scheme for reference of children to the Poor-law for treatment be opposed, but that efforts should be made to secure that a more stringent scrutiny be exercised in deciding which cases are, or are not, necessitous, than has been done under comparable schemes for medical examination and treatment by Education Authorities.

The Representative Body.

It was announced during the course of the day that the Chairman of the Representative Body (Dr. C. O. Hawthorne) and the Treasurer (Mr. Bishop Harman) had been elected unopposed. A contest for Deputy Chairman resulted in the election of Dr. A. Lyndon. The following gentlemen were elected to the Council, without opposition in all cases but two, by the votes of the "group representatives" : G. B. Hillman, I. W. Johnson, A. M. Webber, J. R. Prytherch, E. B. Turner, W. Paterson, H. C. Bristowe, A. Lyndon, G. W. Miller, J. Patrick, R. C. Peacocke, and J. Armstrong.

A MEMORIAL TO LORD LISTER.—Bishop Hamilton Baynes has dedicated two beds in Birmingham General Hospital, one to commemorate the beneficial work of Lister, and one endowed by university students from funds collected at last year's carnival. A stained glass window in the hospital chapel was dedicated at the same time in memory of the late Sir John Holder.

HAMPSHIRE HOME OF RECOVERY.—Hitherto this home at Stoneham Park has only been able to receive men recovering from surgical operations. An effort is now being made to provide a new wing for the benefit of women patients. The home receives patients from the four general hospitals in the county as soon as they can be moved.

CONGRESS OF THE ROYAL SANITARY INSTITUTE.

HASTINGS, JULY 11TH TO 16TH.

WE have already reported the opening proceedings of the Royal Sanitary Congress which met at Hastings last week under the presidency of Sir WILLIAM JOYNSON-HICKS, Secretary of State for Home Affairs. The work of the sections continued until Friday, and on the following day there were excursions in the neighbourhood.

Personal Hygiene.

Sir JOHN ROBERTSON (Birmingham), in his presidential address to the Section of Sanitary Science and Preventive Medicine, said that people were expected to pick up the knowledge necessary to keep themselves in good health. He was well aware that the medical profession was far from knowing all that should be known about the care of the body. Nevertheless there was a great difference between the knowledge possessed by the physiologist and the knowledge requisite to keep the body in health. He thought the latter should be a really important subject in the educational curriculum. Two things were lacking at present : first, an appreciation by the public of the value of such knowledge; and, secondly, a group of well-informed teachers. People who really understood the needs of the body would refuse to work under unwholesome conditions and employers would recognise that these conditions were damaging. The subject of elementary physiology ought to be made a real living thing. The Medical Research Council was a very fine organisation for investigating problems of the causation and prevention of disease, but its investigations did not bear the fruit they should. What was needed was general recognition of the fact that much ill-health was due to lack of knowledge, and he hoped that the new London School of Hygiene would do a great deal in preparing teachers to go out into the districts and spread this necessary knowledge.

Roads and Towns : Uses of Sewer Gas.

Mr. LESSEL MCKENZIE (Bristol), President of the Conference of Engineers and Surveyors, said that road engineers had every reason to be satisfied with the progress made since the war in producing impervious surfaces with little dust and no need for watering. In Bristol 5000 houses had been built, which almost met the demand of those able to pay the rent, and they now had to face the problem of providing houses for those unable to pay more than 6*s.* or 7*s.* a week, many of whom were living under appalling conditions. The tendency in town-planning nowadays was to lay down the skeleton of a scheme and make the details as elastic as possible. Planning of areas already built on was exceedingly difficult. Useful work in regional planning was being done in some parts of the country, but there was no statutory power behind such schemes. Instead of each authority having its own undertakings, it would often be much more economical to have joint schemes. As regards refuse disposal destruction by burning was costly and a preliminary screening of the refuse was to be commended. The working of the new plant, designed by Messrs. Woodall and Duckham, now being tested in London, would be watched with interest.

Mr. McKenzie went on to refer to the production of gas from sewage. At the Gross Zieter sewage works in Germany a gas was produced which gave the necessary power for the works and was supplied to a population of 8000 for domestic purposes. At Emfort a net profit of £4200 was said to have been obtained last year by the utilisation of sewer gas. In conclusion, Mr. McKenzie expressed the opinion that cremation would have to be accepted as the only proper way of disposing of human remains.

Changes in the Poor-law.

Mrs. DYMOND (Mayoress of Hastings), in her presidential address to the Conference of Health

Visitors, referred hopefully to the proposed abolition of the guardians and the handing of their functions to county councils and county borough councils. At present there was much waste of time and irritation caused by several bodies collecting the same information. For example, the health visitor obtained all the information about a family; the man lost his job and the same information was obtained again by the labour exchange; the man applied to the guardians and the information was obtained a third time by the relieving officer. If the proposed change were carried out the local authorities would not have to submit insignificant items for the approval of the Ministry, the stigma of pauperism would disappear, and the change would benefit many children. The children at present boarded out by the guardians would come under the care of the health visitors and also the children boarded out under the Childrens Act of 1908. In many unions the inspection of such children was still carried out by a man. Most men, except doctors, were helplessly at sea with a baby and depended for their information on the foster-mother, whom they were supposed to inspect. The present method of supplying orders for admission to the Poor-law maternity wards was also open to criticism. The details had to be given by the applicant to a male relieving officer, whereas under the new scheme the necessary inquiries would be made by the health visitors.

Welfare Work and Hygiene in Factories.

Major ISIDORE SALMON (London), in his address to the section of Hygiene in Industry, considered this question under two headings: (*a*) personal hygiene as it applies to the work, and (*b*) factory hygiene as it applies to the production of food in the factory. As regards the first he was convinced that the care of the human machine should be an integral part of the organisation of any business. In the rough division of departments into productive and non-productive, welfare work was unfortunately classed among the latter, but should be classed among the former. Encouragement during convalescence was one important item. Many modern works welfare departments had their clinics, medical officers, dental surgeries, manicure and pedicure sections, massage and electrical treatment rooms. Others, too, had consultant hospital and convalescent services. His opinion was that every welfare section should carry out extensive home sick-visiting for the gradual absorption into active work of all who had been on the sick list. Industry as a whole, and consequently the nation, benefited enormously from sane welfare work. The slogan "Safety first" should apply to disease. One important factor was the right "placing of the staff."

Hygienic production of food was of increasing importance owing to the modern tendency to buy prepared foods and to take meals away from home, and the betterment of the conditions under which food is produced was looked after in his firm by a comprehensive laboratory service quite separate from the department which supervised the personal hygiene of the staff. As one example the phenomenal growth of the ice-cream industry made supervision of all the processes of production and storage extremely necessary. When the ice-cream was once frozen little change took place in the bacterial flora. In the various States of the U.S.A. there were various bacterial standards for ice-cream, but here there were none. Again, in the case of prepared meat products, preservatives were only allowed in the manufacture of sausages, and consequently the quality of the raw products should be controlled. It was a stupendous task for large firms to live up to the standard of bacteriological cleanliness required by modern conditions. Factory disinfection often covered up bad conditions, and the indiscriminate use of disinfectants should be condemned both in the interests of the workers and the quality of the foodstuffs. Factory ventilation had received insufficient attention. In a recent visit to China he had found the hygienic conditions of the food-packing factories equal to anything in England or the U.S.A.

The new Factory Bill now under consideration was meeting with opposition from progressive industrialists because they were afraid of the extended powers which gave to Ministerial rules the force of law. Hygiene in industry would be impeded rather than stimulated by an Act which placed such power in the hands of bureaucrats. Lastly he thought the application of hygiene to industry would do much to improve the relations between employer and employed.

Rheumatism.

Sir WILLIAM WILLCOX (London), in a lecture to the Congress on July 12th, discussed the causation of various forms of rheumatism, and showed how much disablement was due to chronic arthritis. More statistical research was needed, he said, to determine the influence of occupation. He referred to the influence by focal sepsis, constitutional predisposition, the condition of the skin, and external influences such as climate, damp, diet, and occupation. He expressed his belief in the provision of dental clinics for industrial workers and in the extension of the provision of baths to other industries besides collieries, and in the establishment of clinics for rheumatic diseases which would act as clearing-houses and thus enable the facilities of spa treatment to be retained for those likely to benefit therefrom.

Dr. A. ROLLIER (Leysin, Switzerland), in an address to the Conference on Health Resorts, referred especially to the use of heliotherapy in combination with sea-bathing in the treatment of rheumatism, and went on to emphasise the need for providing suitable work for patients suffering from these chronic diseases in order to combat the deadly combination of boredom and despair induced by the monotonous routine of treatment.

Dr. FORTESCUE FOX spoke of the value of British spas, whilst Dr. M. B. RAY, Mr. W. A. APPLETON (General Federation of Trade Unions), and Mr. JOHN HATTON (British Spas Federation) dealt with the provision of spa treatment for insured persons. Mr. Hatton described a scheme by which 30,000 cases a year might have a four weeks' course of treatment with existing bathing accommodation. The scheme involved no fresh administrative machinery and no capital outlay, he said, and could be started without delay.

Small-pox.

There was keen discussion at the Section of Sanitary Science on the measures needed to control small-pox. Some speakers believed that the mild type of variola is so different from ordinary small-pox as to deserve a distinguishing name—e.g., variola minor or para-smallpox. They thought that the mild type can be trusted to breed true, that it is not more serious than chicken-pox, and that an outbreak of this disease does not justify legislation to tighten up infant vaccination or wholesale revaccination. Dr. C. K. MILLARD (M.O.H., Leicester) thought that when an outbreak occurred the name small-pox should be used only until it was known which variety was present.—Dr. R. P. GARROW (M.O.H., Chesterfield), after six years' experience, found variola minor was still breeding true. Other speakers, however, adopted the view that the type may change at any time and that the ordinary small-pox precautions should be taken for variola minor. It was generally accepted that both types of the disease immunise the patient against vaccination, but after variola minor the immunity only lasts a short time. Up to now there has been practically no mortality from the mild type of the disease. Vaccination protects against both types.—Dr. C. S. THOMSON (M.O.H., Deptford) suggested that one of the reasons why people object to vaccination is that it is compulsory. Only 30 per cent. of the infants in Deptford were vaccinated, he said, but he had been able to get 90 per cent. of the school-children immunised against diphtheria. Other speakers thought that reliance solely on vaccination had retarded research as to methods of treatment, especially with serums.

Another suggestion was that the objections to vaccination might be minimised by perfection of technique and by using a milder form of vaccine which would give immunity for the period of an epidemic.

Notifiable Diseases of the Nervous System.

Papers on this subject were read by Dr. F. M. R. WALSHE, Dr. SALUSBURY MACNALTY, and Dr. J. A. H. BRINCKER (London), attention being chiefly devoted to poliomyelitis, polio-encephalitis, and encephalitis lethargica. A discussion followed, towards the end of which Dr. DUNCAN FORBES (M.O.H., Brighton) pointed out that not much hope had been held out from the preventive point of view.—Colonel A. H. TUBBY (London) gave a warning against the use of electricity and massage before the destructive stage of acute poliomyelitis was quite over, and emphasised the need for continuity of treatment. Each case should be in charge of one physician and one surgeon from the beginning. It was mentioned that the experts of the London County Council were available for aid in diagnosis in districts near London.—Prof. JAMES MCINTOSH (London) showed that very many of the clinical diagnoses of encephalitis lethargica were not confirmed at the post-mortem.

Bovine Tuberculosis.

The Section of Veterinary Hygiene dealt with the effect of recent legislation on tuberculous infection in milk. Many county boroughs until recently have held the powers conveyed by the "milk clauses," which enabled their veterinary inspectors to go into other districts to search for cows with tuberculous udders in the herds supplying them with milk. Mr. J. S. LLOYD (veterinary inspector, Sheffield) expressed disappointment at the loss of these powers, and a good deal of sympathy was expressed with his view, but the consensus of opinion at the meeting was that the new powers given by the Tuberculosis Order and the Milk Act were so recent that the county councils had not yet had time to develop their machinery. It was agreed that many counties were quite inactive; others, however, were taking energetic measures.—Dr. W. M. ASH (M.O.H., Derbyshire) advocated dealing with tuberculous cows entirely under the Tuberculosis Order and leaving the more cumbersome procedure of the Milk Act alone. He showed that in this way very many tuberculous cows had been condemned, and good coöperation without red tape had been established between the veterinary departments of the county council of Derbyshire and the county borough of Sheffield.—Dr. LEIGHTON (Edinburgh) spoke about the large number of tuberculous cows which had been condemned in the neighbourhood of Edinburgh, and several speakers asserted that the new powers were being well used in Scotland. Some favoured whole-time, others part-time veterinary appointments.—Colonel BRITTLEBANK (veterinary inspector, Manchester) agreed that there had been a temporary setback owing to the transfer of the powers and that the percentages of tuberculous mixed milks had shown an increase, but he thought they should exercise patience and give the new legislation a chance. The difficulty of keeping tested herds tubercle-free was discussed. Colonel Brittlebank mentioned that tubercle bacilli were sometimes found in Certified Milk. The explanation of the reinfection of tested herds which were maintained by breeding only was to be sought, it was pointed out, in infected pastures, the introduction on to the farm of infected manure, and other accidental contaminations. An instance was cited of the infection of a tubercle-free herd near Edinburgh owing to a stray cow finding its way into the herd. The stray cow was afterwards found to be tuberculous, but had spent half a day in the tubercle-free herd. At the next half-yearly testing four cows in the tested herd gave a reaction. A speaker from Shanghai said the cattle from the hills showed no tubercle, while those from the dairy farms were heavily infected. An Australian speaker did not agree, but said he had found in some instances 30 per cent. of tuberculous animals among steers in Queensland living in the open.—Mr. E. G. BURNDRED (veterinary inspector, Blackburn) thought the veterinary inspection for Grade A milk should be quarterly.

The following resolution was adopted on the proposal of Prof. G. H. WOOLDRIDGE (London):

"That the time has arrived for the control of the sale, distribution, and use of tuberculin and the standardisation of the methods of its preparation."

Puerperal Fever.

The Maternity and Child Welfare Section devoted one morning to the discussion of puerperal fever. Dr. J. BRIGHT BANISTER (London) described the coöperation necessary to bring about a better obstetric system and the prevention of puerperal fever. First of all the public, and especially the women, must demand a higher standard of antenatal supervision and a greater regard for bodily hygiene. Secondly, the local authorities must provide better housing conditions and efficient sanitary service—he had had, for example, special reason to complain of the removal of refuse in London—and should supply sterilised outfits for confinements in their area. Thirdly, there was the part of the doctor or midwife on whose behalf he pleaded for sympathy, as she often had to do her work under very difficult conditions. He emphasised the importance of removing septic foci and of the care needed to avoid conveying infection.

Dr. A. REMINGTON HOBBS described a method of promoting drainage of the uterus by the introduction of glycerine without an anæsthetic and without injury to the cervix or discomfort to the patient.

MIDDLESEX HOSPITAL.

NEW INSTITUTE OF BIOCHEMISTRY.

Prince Arthur of Connaught, chairman of the board of governors of Middlesex Hospital, accompanied by Princess Arthur, presided on Wednesday last at the laying of the foundation-stone of the new Institute of Biochemistry, for the provision of which Mr. S. A. Courtauld had made a magnificent gift of £30,000.

Prince ARTHUR said, in the course of a brief speech, that he would take the opportunity of making a very welcome announcement. "Mr. Courtauld," he said, "is so determined to ensure that the workers in this department of scientific endeavour shall lack nothing in these researches that he has now increased the amount of his list from the noble sum of £30,000 to the princely sum of £40,000. I will not dilate upon our further indebtedness to his great liberality. I will only assure you that we all thank him most warmly from the bottom of our hearts."

The proceedings opened with a brief address from Sir JOHN BLAND-SUTTON. He said:—

Biochemistry in Relation to Medicine.

Dictionaries printed before the year 1900 contain no such word as biochemistry. The name is now familiar, and, though new, the science is old; it was founded by Lavoisier at the end of the eighteenth century. Biochemistry is concerned with the application of the principles of chemistry and physiology to the study and interpretation of the phenomena of life. Some 250 years ago Linnæus, the great Swedish naturalist, arranged the kingdoms of nature in three classes: minerals, plants, and animals. He defined his famous trifogy in this terse way: Stones grow. Plants grow and live. Animals grow, live, and feel. The three kingdoms were for many years believed by naturalists to be distinct from each other.

The history of great discoveries shows, in many instances, that they were unappreciated for a century or more. This is true of biochemistry. The microscope revealed to able investigators like Ferdinand Cohn, Pasteur, Koch, and their followers, the existence of myriads of minute living things concerning which biologists were puzzled to decide whether they were plants or animals! Such discoveries bridged the gap between plants and animals, and the close study of these minute organisms—microbes as they were called—proved them to be the causes of fermentation, putrefaction, and suppuration; and many infective diseases.

Primitive man, who personified the sun and moon, the wind and sea, regarded disease as due to the action of demons. The discovery of microbes gave colour to the ancient belief that disease is due to something which enters the body of man. We know to-day that the microbes of disease and parasites enter our bodies with the air we breathe; with food, and with water. Many are stealthily and unsuspectedly conveyed to us by biting insects, such as fleas, flies, gnats, and ticks, and even by snails. The study of bacteria and micrococci has taught us that some forms of infectious disease, such as tetanus and gas-gangrene, are derived from cultivated soil saturated with animal manure, and some are parasites of plants which have transferred themselves to man and have acquired for animals, as well as for man, virulent properties. There are many diseases obviously due to microbes, but the actual agents have not yet been detected. Now that the gulf is bridged between plants and animals, it is the ambition of biochemists to discover the connecting link between stones and plants in order to find out how life arose from inorganic matter.

The laboratory, of which the foundation-stone is to be "well and truly laid" is not primarily intended to solve such matters. Men capable of judging the effects of biochemistry on the practice of medicine believe that it will ultimately promote human welfare by helping man to protect himself from such things as the deleterious effects of environment, the struggle for food, and the germs of disease which surround him on every side. It is also intimately concerned with the processes of life which begin with man's conception and continue throughout the subsequent phases of his life. It will help him to fulfil Kipling's fine

"Be fit—be fit, in mind and body be fit."

Just as the flame of a candle is produced by the oxidation of organic matter, so is the heat of the body maintained by smokeless combustion of foodstuffs and muscular action—work. This is the flame of life, and the expression is something more than metaphor. Few sentences contain so much in few words as the phrase, "conservation of energy"; it applies to the mechanism of life, as well as to machinery.

I have always maintained that laboratories for investigating disease should be in close association with hospitals concerned with the cure of disease. The future of medicine does not lie in prescribing drugs. The day may come when the biochemical laboratory will displace the dispensary. Lavoisier was the founder of biochemistry. In 1794 his head was cut off by the apostles of liberty, equality, and fraternity, on the excuse that the Republic had no need of scientists! Mr. Courtauld has no fear that such a fate awaits him. Judgment is a necessary adjunct to benevolence, and the wisdom shown in building this laboratory indicates his keen appreciation of the great part science plays in practical medicine. Mr. Courtauld, by helping our medical school in this way during his lifetime, can be satisfied that the money he gives will be devoted to the object he has at heart. The laboratory will be useful in the daily work of the hospital. It is said of Linnaeus that he imbued his pupils with his own intense enthusiasm and acquisitiveness; if our excellent professor of biochemistry emulates Linnæus we may be hopeful that a discovery will one day be made within the walls of this laboratory which will make the world gape with astonishment.

Mr. Courtauld's Beneficence.

Mr. Courtauld then laid the foundation-stone, when Mr. S. G. ASHER, chairman of the Medical School Committee, moved a vote of thanks for his great generosity, which was seconded by Mr. A. E. WEBB-JOHNSON in the following words:—

In speaking, I cannot but cast my mind back to before the war, when Sir John Bland-Sutton showed his faith in the scientific future of this medical school by his gift of the pathological institute which bears his name.

We are present at a ceremony which marks a tremendous advance in the placing of scientific medicine in this country on a firm basis. Biochemical laboratories there are already in some of our universities, but a great biochemical institute attached to a large general hospital and medical school is the right way to help the advance of medical education and research. The foundations of scientific work in this school were laid deep in the past. They were made secure by Sir John Bland-Sutton. This development which is initiated to-day reinforces those foundations and makes the superstructure also secure for all time.

We owe the present great advance to our friend, Mr. Courtauld. It is not the first indication of his interest in medical research and education, for it is but a few years since he gave £20,000 to endow the chair of anatomy, one of the fundamental medical sciences.

Among the happiest results of my work for this medical school have been the friendships which I have made, and one which I cherish most closely is that which I am privileged to enjoy with Mr. Courtauld. Since I have known him well I have learnt to appreciate his earnest desire to do all in his power to improve the lot of those who are less fortunately placed than he. Near his home and amongst his own people his efforts are directed to improving the housing, providing clubs and recreation rooms for the young, hospitals for the sick, and homes for the aged. That is the immediate task before his eye, but he has had a greater vision. He has been inspired to come to headquarters and has realised that by giving his support to medical education and research he reaches the very factory of medicine where new discoveries are made and men are taught to apply those discoveries for the benefit of all mankind.

Mr. Courtauld has done more than give. His presence here to-day is a further indication of his personal interest, and I have the greatest pleasure in voicing our thanks to him for himself laying this stone. The inherent vital elements in this great institute will be the men who work in its walls and the ideals which they cherish and teach. The donor need have no qualms for the future, for his gift could not be in safer hands than those of Prof. Dodds, who will have the cordial coöperation and support of Prof. McIntosh.

A vote of thanks to Prince Arthur of Connaught for presiding was proposed by Lord MILDMAY OF FLETE, and seconded by Mr. ERIC PEARCE GOULD, and cordially received.

The New Building.

The new Institute will adjoin the hospital and be entered from Union-street. In its structure as well as equipment Mr. Alner W. Hall, the architect, has met the requirements of expert advice, and especially the desires of Prof. E. C. Dodds, who will be the director. Much recent successful work falling under the general and inclusive heading of biochemistry has made it possible to foresee with some certainty the various laboratories which will be required, and how they should be equipped to deal with the different ramifications of a growing science. Having regard to the increasing literature, directly or indirectly connected with biochemistry, the architect has made arrangement in his plans for a reference library.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

ANNUAL REPORT OF THE COUNCIL.

THE Council reports a year of satisfactory work, with substantial increase in the membership and in the financial resources of the Society. 1057 new members have been elected during the year, the loss of members through death and other causes being 308. On Dec. 31st, 1926, the number of members was 10,070.

The number of applications for advice and assistance from members was 961, as compared with 801 for the year 1925 and 785 for 1924. In a large majority of the cases satisfactory results were obtained without litigation, and the results of most of the cases in which litigation occurred were satisfactory. The Council acknowledges with appreciation the skill and energy with which the Society's solicitors—Messrs. Le Brasseur and Oakley—and the secretaries, conduct the work of the Society.

It is noted that within the past year several practitioners have joined the Society after having already become involved in serious litigation which, of course, could not be undertaken for them on that account, although certain assistance has been given. With a view to encouraging young practitioners to join the Society as soon as they become registered, no entrance fee is required from them if they apply for membership within a year of the date on which their names are entered on the Medical or Dentists' Register.

Solicitors' Report.

This year is marked chiefly by the first defence in respect of a capital criminal charge which the Society has since its commencement been called upon to undertake. The gravity of the case, when first before the Society, was immediately appreciated, and prompt steps were taken for the protection of one of the two doctors concerned. The other, at that stage, not realising the gravity of his position, had not then applied to the Society. On the face of the depositions the case appeared to present insur-

mountable difficulties in the defence, but after its very careful investigation and consideration, the Society was satisfied as to the innocence of both its members and eventually secured their acquittal. In its initial stages the Society was hampered by the failure of one member concerned to apply for its assistance, but fortunately the member realised in time the extreme gravity of his position, and from that moment the Society had the matter entirely in its own hands.

Another matter again emphasised is the neglect of certain practitioners in the use of X rays. It is not suggested that this necessarily implies neglect, but that an X ray is a protective measure; without it a member's position is prejudiced should a claim be made against him. Some cases are cited where the Society has been put to considerable expense, as also the member, through this matter. The solicitors say: "Some members do not seem to heed the Society's warning, and only learn by experience, and it might well be considered that the Society should penalise their members who without adequate reason neglect to obtain X rays wherever possible, or, should this advantage be refused by the patient, to have such refusal recorded in writing."

Examples of Alleged Negligence in Fracture Cases.

A member treated a child for a fracture and both before and after setting the fracture employed X rays. The arm was strapped up in position, and directions given to the mother that it was not to be moved nor the strappings interfered with. After doing this the member did not visit the child for a period of some eight days. As his attendance had not been sought for nor any matter brought to his knowledge, he had felt justified in allowing the length of time to elapse. On the next visit to the child he found the fracture to be in an unsatisfactory state with evidence of the strappings having been interfered with. The patient was then removed out of his care and allegations of negligence were made against him. Unfortunately the doctor on his own initiative, and without obtaining any advice from the Society, made a verbal offer to the patient's parents to bear the expense of such other treatment which had been obtained, and when subsequently allegations were made against him and expert opinion obtained, it was considered that the member was placed in a very difficult position by reason of his gratuitous offer. In all the circumstances it was deemed advisable in his interests to arrive at a settlement.

A claim was made against a member in respect of a fracture of the forearm which had united badly, necessitating a subsequent operation. The fracture had been treated under the guidance of X ray photographs, and during his absence his partner had sent the patient into hospital, not being satisfied with the union of the fracture. Later on the patient was seen by a consultant who reported that there was a malunited fracture. After operation it was reported that the ununited ends of the fractured bone were put into perfect position and fixed with metal plates, the arm then being fixed in a plaster case to be kept on for eight weeks. The patient was informed that he had no just cause for complaint against his medical attendant, and all liability was repudiated on his behalf. Nothing further was heard of the case.

A complaint was made against a member in reference to his treatment of a fractured wrist. The fracture had been X rayed and put up on a Carr's splint and did well until the splint was removed and massage was employed. The doctor had given instructions that the splint was to be applied at night, but this was not done, and the patient used her hand although warned not to do so. Deformity ensued, and the patient was taken to a specialist who operated on the wrist. The patient's husband said that the cost to him had been £150, and he expressed surprise that an account should be sent in for medical attendance. A reply to the husband's letter was drafted for the member to send, and as he did not wish to sue for his fees and no action was taken by the patient or her husband, the matter was allowed to rest.

Various other typical cases dealt with are summarised under the headings Negligence and Unskilfulness, Libel and Slander, Medical Ethics.

Professional Secrecy.

Some of those quoted under the last heading are of especial interest in view of the recent debate on this subject.[1]

[1] THE LANCET, 1927, ii., 14.

The Society's comments, which precede the summary of illustrative cases, are as follows:—

It is the duty of a medical adviser to keep secret all matters concerning his patients which become known to him in his capacity of doctor. Nothing should induce him to disclose what, in his professional capacity, has come to his knowledge, unless he first has the consent of his patient to the information being given; and the patient's consent ought, if possible, to be in writing and signed by the patient.

The rule of absolute secrecy as regards what comes to a medical man's knowledge professionally should be observed almost without exception. Where, however, a medical man by keeping silent becomes passively acquiescent in the intended perpetration of a crime, the carrying out of which he can effectively stop if he reveals what he knows, then he should make it clear to his patient in the first instance that, if the crime is persisted in, it will be his duty to break the rule of secrecy.

The Council of the Society considers that it is the duty of a medical man *not* to disclose the nature or circumstances of the disease or illness from which his patient is suffering unless he is satisfied that the inquiry is made by a near relative who has a bona fide obligation to maintain the patient or to assist in securing the comfort or the recovery of the patient. Such disclosure is not to be made in any case where the patient is able to consent and has not actually consented. This rule does not apply when there is a statutory obligation to disclose (this includes insanity and notifiable diseases), or where the disclosure is ordered by a competent court of law.

A member received a request from a lady for information as to statements made to him by relatives of a man who had been under his observation in regard to his mental condition. He had already declined to give any information, and he was advised to adhere to that position.

A member received a request from a postmaster that he should state the ailment from which a post-office employee was suffering to whom he had given a sickness certificate of unfitness for work. He was advised to tell the postmaster that he could give the information asked for only with the consent of the patient, and that if her consent was obtained he would supply the information.

In a case where exception was taken by a judge at the Old Bailey to a doctor giving information about a patient of his to the defendant's counsel, the Society advised the doctor to see the judge privately, and after his interview with the judge there was no occasion for the Society's intervention.

A member asked if he should inform the mother of a girl who had told him that she feared she was pregnant as she had missed her periods for two months, and who had asked him if he would help her to prevent pregnancy. She remarked that she would commit suicide otherwise. The member was advised not to inform the mother, unless he had reason to believe that there was any likelihood of the girl attempting suicide, which in this case did not appear to be so.

A member received a request from the solicitors of a patient to be supplied with a report of his attendance on her. She had suffered from gonorrhœa and was contemplating divorce proceedings against her husband, who had also been attended by the doctor for gonorrhœa. The member was advised that he could properly supply the solicitors with a full report of his attendance on their client, but should not give them any information in regard to the husband unless subpœnaed and required to give evidence about him.

A member asked whether he ought to report to an insurance company a fact connected with a patient's previous ill-health of which he had not been informed when filling in a form for the insurance company. He was advised that he should not report the matter to the insurance company, but should warn his patient of the possibility of the withholding of any material fact affecting the validity of the insurance, leaving it to the patient to inform the company or not, as he thought right.

Protection in Many Aspects.

Examples of difficulties in connexion with partners, assistants, and locum tenents that have been smoothed out after consultation with the Society are set out. Attention is drawn to problems of notification, and a list of cases in which medical practitioners are required to send a notification to a public

authority is appended. Some of the advice given to members who have asked for guidance as to the ethical position in connexion with articles or advertisements in the public press makes interesting reading.

Sections on buying and selling practices, coroner's inquests, medical certificates, medical evidence, Poor-law medical officers and public vaccinators, unqualified medical practice, income-tax, and dental practice conclude a document which is very much more than a mere annual report of the activities of the Society. The financial position remains strong, the surplus funds amounting to £40,600 at the end of 1926, against £38,300 the previous year.

Members are urged, in their own interest and in that of the Society, to refer matters immediately to the Society *before dealing with them in any other way*. Every year loss accrues to the Society, and to the members concerned, by neglect of this precaution.

NATIONAL HEALTH SERVICES IN IRELAND.

(FROM OUR OWN CORRESPONDENT.)

IN May, 1924, the Minister for Finance appointed a committee of inquiry with the following terms of reference:—

(1) To report on the advisability of the continued maintenance of the system of National Health Insurance in its present form and to make any recommendations considered proper in that connexion.

(2) To consider whether it was desirable to institute a system of medical treatment on a contributory basis, and, if so, to advise the form such system should take.

(3) To report on the question whether the medical services at present assisted or maintained out of State or local funds could be improved as respects efficiency and economy; and, if so, in what manner, due regard being had to any recommendations under the preceding paragraph (2).

An interim report was presented to the Minister in February, 1925, and the final report has now been published. A majority of the committee makes a series of recommendations, which they summarise as follows:—

National Health Insurance.

(*a*) The termination as from Dec. 31st, 1927, of the National Health Insurance (Prolongation of Insurance) Act, 1921.

(*b*) The extension of medical benefit to insured persons, with an increase of 2*d.* in the existing weekly contribution rates, to be borne equally by the employer and the employee.

(*c*) The diversion to medical benefit of the monies set free from insurance funds consequent on the abolition of insurance committees and the transfer to local authorities of responsibility for the treatment of insured persons suffering from tuberculosis.

(*d*) The payment by the State of compensation to local authorities in view of the additional burden placed on their funds by the transfer to them of responsibility for the treatment of insured persons suffering from tuberculosis.

(*e*) The provision of four whole-time district medical referees on a permanent basis in connexion with the National Health Insurance scheme.

Poor-law Medical Services.

(*a*) The extension of the Dispensary Nursing Service, especially in those areas on the western seaboard which are not already covered.

(*b*) The provision by the State of substantial aid towards the cost of erecting, remodelling, and reconstructing central dispensaries as and where required.

(*c*) The remission or refundment (in whole or in part, according to the circumstances) of taxes incident to motor usage in the case of doctors, nurses, and midwives engaged in the public service in rural areas.

(*d*) The extension of the Education (Provision of Meals) (Ireland) Acts, 1914–17, to rural districts.

(*e*) The provision of financial assistance for the construction, modernisation, and equipment of county and district hospitals and institutions.

(*f*) The establishment of a national (dispensary and hospital) medical service.

(*g*) The recoupment by the State of one-half of the salaries of the county medical officers of health.

(*h*) The setting up of a standing council to advise and assist the Minister of Local Government on health matters.

(*i*) The appointment of a small committee of scientific experts to devise a scheme of medical research suitable for the Irish Free State.

Two members of the committee submit a minority report, which is mainly devoted to criticism of the proposals of the majority, and particularly of those for the provision of medical benefit for insured persons, and for the establishment of a national medical service for the treatment of poor persons. One definite proposal is made with regard to the treatment of the sick poor in the four county boroughs in the Free State—namely, that arrangements should be made with voluntary hospitals for the provision of dispensary treatment for poor persons, and with medical practitioners for domiciliary treatment.

The outstanding features of the majority report are the recommendations for the provision of medical benefit for the insured, and for the establishment of a national medical service for the treatment of the poor. Both these recommendations have been made by several previous committees which have inquired into the public medical services of Ireland, and in principle, at any rate, they have been accepted by the medical profession. There is certain to be public opposition to both of them on the ground of expense. The committee admit that its present proposals are not the best that they could put forward, but they are deterred by considerations of expense from recommending the adoption of a thorough and comprehensive medical scheme, of the outlines of which they give particulars. Dr. Robert J. Rowlette, who signs the majority report, dissents from his colleagues on this point, and recommends the establishment of a comprehensive scheme of medical services forthwith.

It is not likely that any step will be taken by the Government on the report until they have had the opportunity to study the cognate report of the commission on the Relief of the Destitute Sick and Poor, which is said to have been completed, and to be now in the process of printing.

PARIS.

(FROM OUR OWN CORRESPONDENTS.)

A Sign of Hepatic Insufficiency.

NOT enough attention has been drawn, says Dr. Noël Fiessinger, of Paris, to a sign of gross hepatic insufficiency which may be observed in the mouth. On inspecting the buccal and pharyngeal mucous membrane, he states, it is common to see a special red colour—a vivid carmine—over the palate, the throat, and the inner side of the cheeks; the tongue also may show this discoloration at the tip, at the sides, and often also at the base. In serious cases it peels completely and is as glazed as in typhoid, though more red. The patients complain especially of heat or dryness in the mouth. The sign is seen especially in alcoholic cirrhosis, in severe icterus, and in serious toxic and infective states; or sometimes, in the course of a mild chronic jaundice. When seen, it suggests that the condition is serious, requiring rigorous treatment and absolute rest, and the prognosis should be very guarded. When the colour persists it must give rise to a fear of complications, such as gastric hæmorrhage or severe jaundice. It is apparently due to vascular degeneration; on each side of the uvula one may see varicosity of the capillaries.

Heliotherapy in France.

Until quite recently there were no institutions for heliotherapy in this country of the type familiar in Switzerland. This deficiency is, however, now being made good. A sanatorium for the treatment of non-pulmonary tuberculosis has been opened at Courmettes, in the Alpes Maritimes; a second, particularly well equipped, at Odeillo, in the Pyrénées Orientales. The third, at Briançon, is exclusively for ex-Service men.

An Index Analyticus Cancerologiæ is to be published by the French League against cancer, and will contain the names of works on this disease, written in all parts of the world. National committees will supply bibliographical data from the more important countries. The general secretary is A. Lacassagne, 26, rue d'Ulm, Paris, 5e, and the index will appear every three months. For countries outside France, the annual subscription will be 60 francs, and copies are to be obtained from Masson and Cie, 120, Boulevard St. Germain, Paris.

The Association for the Development of Medical Relations, whose office is at the Faculté de Médecine, 12, rue de l'École de Médecine, Paris, is becoming more and more effective as an aid to foreign students in France. It serves as a general information bureau, and medical men desiring to follow post-graduate courses or to attend hospital work in Paris will find it very helpful.

A model hospital for the treatment of infectious diseases has just been completed at Orleans. Patients are isolated in glass-walled compartments, special baths are given when patients enter and leave, and all furniture and utensils may be cleansed with chlorine antiseptics.

Scholarships providing free tuition for the first year of medical study have just been provided by the French Government for students whose grades in the preliminary baccalauréat and science courses are sufficiently high. These scholarships are awarded to those who gain a sufficient number of marks and are not on a competitive basis.

A course on the plastic surgery of the face and neck will be held from Sept. 16th to 29th under the direction of Prof. Sébileau and Prof. Dufourmentel. For details of this course application should be made to the Secretariat, Amphitheatre of Anatomy, 17, rue du Fer-à-Moulin, Paris.

The nineteenth French Medical Congress will be held from Oct. 11th to 14th, and amongst the subjects to be discussed will be septicæmias, the pathology of œdema, and the indications and therapeutic value of splenectomy. Particulars of membership may be had from Dr. M. Chiray, 14, rue Petrarque, Paris (16e).

A vacation course on the diseases of children, embodying the latest views, is to be held at the Hôpital des Enfants Malades, 149, rue de Sèvres, Paris, from July 25th to August 13th. Application for membership should be made to the Secretariat of the Faculty.

TYPHUS FEVER AT BRISTOL.

WE are indebted to Dr. P. Phillips, medical superintendent of Southmead Hospital, for the following particulars of a case reported in THE LANCET (July 2nd, p. 39):—

The patient was a woman, aged 32, a laundress at a large orphanage, and was admitted to Southmead Poor-law hospital, June 12th. On admission she was severely ill, and though able to talk could not give a definite account of her illness. Her condition might be described as a mild state of stupor, and she suffered from incontinence. There was a well-marked rash showing the three main elements usually regarded as characteristic of typhus, principally on the trunk, but also on the arms and legs. Deafness had set in since the commencement of the illness, the date of which was uncertain. Eyes, normal; cerebro-spinal fluid, normal; blood showed a leucopenia; agglutination tests (typhoid, paratyphoid A and B), negative; Weil-Felix reaction, definitely positive 1 in 125, weakly positive 1 in 250, on June 16th, and negative on June 28th.

Patient had apparently been ill for a week before admission to hospital. The temperature remained consistently high, with slight remissions, until a week after admission, when it fell to normal in 48 hours, after which she recovered rapidly. Pediculi capitis were found in small numbers; other pediculi were absent.

Contacts were watched for three weeks without result, and a careful search in the neighbourhood revealed no case resembling typhus, nor was there any history of association with persons or materials from abroad. The patient was seen by physicians experienced in the diagnosis of typhus fever, and was regarded as a doubtful case showing sufficient evidence to justify all necessary precautions being taken.

Public Health Services.

REPORTS OF SCHOOL MEDICAL OFFICERS.

COUNTY OF LONDON

THE magnitude of the work that has grown during the last 20 years in connexion with school inspection is shown in Dr. F. N. Kay Menzies's annual report for 1926. It deals with the health of over 650,000 London school-children during 1926, when 330,395 medical inspections were carried out and 258,638 children received treatment. The various sections into which the report is divided are written in vigorous style by the heads of the special branches of the service. Although great advances have been made in furthering the health and general wellbeing of the children, yet the work is still more remedial than preventive. As Dr. C. J. Thomas says in the report: "The School Service inherits children whose constitution has been already compromised." Entrants come to school with teeth just as carious as did their fathers; the proportion of entrant children with defects of the nose, throat, and ear shows little, if any, decline; enlargement of cervical glands and defective vision in young children are just as prevalent as they were years ago, and though gross rachitic deformities are now rarely seen, yet when Dr. Thomas applied Dr. G. C. M. M'Gonigle's (of Durham) criteria he found that the milder degrees of rickets can be detected in a much larger proportion of children than are reported by the medical inspectors. These small aberrations, perhaps unimportant in themselves, demonstrate the still large numbers of children whose general nutrition has been prejudicially affected long before school life begins.

Infectious Diseases.

Dr. J. A. Brincker calls attention to the practical disappearance of gastro-intestinal and insect-borne diseases such as cholera, typhoid, yellow fever and malaria, as well as small-pox. Unfortunately, preventive measures have scarcely as yet affected the incidence and severity of those diseases which are conveyed through the respiratory passages—e.g., diphtheria, measles, and whooping-cough, and those affecting the nervous system, such as cerebro-spinal fever, poliomyelitis, and encephalitis, all of which still exact a heavy toll of life and suffering among young children. He emphasises the value of active immunisation in combating the ravages of diphtheria, and states that vigorous research is being prosecuted in measles prophylaxis by the Ministry of Health in conjunction with the Medical Research Council, and he indicates the possibility of future effective anti-scarlatinal measures. The procedure of segregation at present adopted in London is outlined, with the measure of success that has attended it, but Dr. Brincker is convinced that the coöperation of the public must be secured to further these protective measures which are now being used with success in many parts of the world, and indeed in some parts of London. The experiment at Winchmore Hill for the residential care of cases of chronic encephalitis lethargica, although not producing the curative effects that were hoped for, has materially assisted in solving the problem of the disposal and treatment of such unfortunate children.

Feeble-minded Children.

Dr. F. C. Shrubsall traces the steps taken in London for dealing with feeble-minded children from the first tentative efforts in 1892—long before the work of Prof. Binet became known in England—until the present year, when 5517 children were statutorily examined for admission to mentally defective schools. He also contributes an excellent section in conjunction with Mr. Bishop Harman on measures for preventing blindness, indicates the methods adopted in London for providing higher education for myopes, and gives detailed instructions for the guidance of teachers in charge of them; lists of occupations open to and suitable for myopes are appended. The after-careers

of many children who have attended special schools have been tabulated and illustrate the excellent results of providing educational facilities for them.

Diseases of the Ear.—Rheumatism.

Mr. M. Yearsley, in his review of the special schools for the deaf, finds that the early treatment of nose and throat conditions has largely decreased the suppurative ear affections leading to deafness within the past 15 years, but cases of deafness following the non-suppurative conditions have not so decreased. Mr. A. G. Wells shows the good results of ionisation in the treatment of ear complaints. He describes a new method, known as "diastolisation," which, introduced by Dr. Gautier, of Paris, has now been used in London for treating cases of defective nasal respiration, particularly those due to hypertrophic rhinitis and the like. It consists of a to-and-fro movement of graduated hollow rubber bougies which are inflated and deflated while in the nasal canal. So far this method appears to have given good results.

Rheumatism in its various manifestations accounted for 24 per cent. of the chronic invalidity of the children, thus easily topping the list of disabling diseases. Yet it is the only widespread disease for the combating of which administrative measures are still lacking. However, a small beginning was made when the M.A.B. in November, 1926, opened 60 beds for acute rheumatism and 16 beds for subacute cases at Carshalton. The difficulty of securing cases in the acute stage is realised when we find that only 17 beds in the acute unit were filled by the end of the year, while all the subacute beds were occupied within a fortnight. An index of children suffering from subacute rheumatism was started in November, 1926, and on Feb. 25th, 1927, there were 1314 names on this list. It is obviously the insidious and protracted type of infection resulting in later cardiac involvement that specially calls for investigation and combined effort at prevention and cure.

Apart from the anthropological and optical surveys initiated by the Board of Education many original and painstaking investigations were undertaken by members of the staff. Dr. Thomas, reporting on the efficiency of the "plenum" system of ventilation in some of the older schools, quotes a letter written in 1912 from the then education adviser to the Council, Dr. W. Garnett, who with remarkable foresight suggested the existence of actinic rays which cannot penetrate glass and which might have a decided effect upon health. The efficiency of measures for safeguarding the health of the school population is exemplified by the fact that the nutritional standard of the London school-children was actually better in 1926 than it was in 1925, a remarkable result considering the widespread unemployment resulting from the industrial unrest prevalent during that year.

PORT SANITARY AUTHORITIES.

Dr. W. F. Dearden, in his twenty-first annual report to the *Manchester Port Sanitary Authority*, mentions that there was in 1926 no case of cholera, plague, or yellow fever. The number of cases of infectious disease actually dealt with at Manchester is not definitely stated, but two cases of enteric fever were taken to hospital. One case of tubercle died, one went to hospital, and three were treated on board, apparently on tramp steamers. Three cases of malaria and one of diphtheria were taken to hospital, and one case of measles in a child was treated on board a canal boat. On board ship 2344 rats were killed, 2656 ashore; 10 examined were free from plague; 26 ships were sulphur-fumigated, and the rats killed in each average 14. There were destroyed 600 tons of fruit from one cargo, ruined as the result of a single prolonged and hazardous voyage, also 10¼ tons of frozen fish carried from Newfoundland as deck cargo. Besides these, 5¼ tons of meat and 220 tons of other food were condemned. Among the 2102 vessels inspected, 546 (or 26 per cent.) had insanitary conditions; in 303 of these the defects were made good before sailing. There were defects in 22 per cent. of the foreign-going ships, 32 per cent. in coasting ships. The average crew appears to be one of 24 men. The most numerous defects were, forecastles requiring cleaning and painting (192), decklights, portlights, broken and defective (132), leakages into quarters (107), defects in water closets (91), in heating apparatus (39), in the water tanks (33). Of canal boats, 759 were inspected; 107 had leakages into cabins, 60 cabins were dilapidated and required repair, 42 required painting, 28 had bad or insufficient water storage, 38 were overcrowded, and in 21 the sexes were not separated.

In a letter introductory to his annual report to the *Cardiff Port Sanitary Authority*, Dr. R. M. F. Picken observes that the traffic of that year was the lowest for many years, owing to the coal strike; arrivals of vessels from May to November inclusive were about one-half the average. All vessels from foreign ports were inspected and 20 per cent. were found to have sanitary defects; two-thirds of the coasting ships were inspected and only 6 per cent. had defects. Fourteen cases of malaria came to notice, 7 of tuberculosis, 4 of pneumonia, and 1 each of diphtheria and typhoid fever; 10 other cases of tuberculosis were referred to their districts. There were no cases of cholera, plague, or yellow fever, and the hospital at Flat Holm Island, always kept in readiness, has been unused throughout the year. In all, 9159 rats and 1877 mice have been killed; none of the 266 rats examined was plague-infected. In ships were killed 2136 black, 43 brown rats; in warehouses 207 black, 50 brown. Fumigation by hydrocyanic acid has not yet been established here, though experiments detailed in this report have shown it is not deleterious to foodstuffs. Ship rats were more flea-infested than dock rats; *Ceratophyllus fasciatus* was more often found than *Xenopsylla cheopis*. Fewer fresh cases of venereal disease (the actual number was 565) appeared this year at the Seamen's clinic, but the reduction was far less than that in the tonnage entering the port. Nineteen seamen were treated at the corporation cleansing station for scabies and four for lice; the effects and quarters of the latter group were fumigated and cleansed. Bugs were reported from 101 vessels, and notices were served on the masters: vermicides were sprayed on berths, or were sent on board, for that purpose and results were satisfactory, but sometimes the spray was used too little or not at all. None of the 291 aliens who passed through the port was refused entry. In 4473 ships inspected were found 525 dirty forecastles or bunks, 304 defective side lights or prisms, 140 had foul accumulations, 136 dirty w.c.'s, 101 verminous forecastles, 97 defective stoves. Water samples were taken from 253 vessels; 13 per cent. were bad. 1656 dirty and infected beds were destroyed. During the year there were "withheld from human consumption" 121 tons oranges, 96 tons potatoes, 51 tons wheat (only 0·03 per cent. of that imported), and 32 tons of apples. The sanitary condition of the canal boats proved satisfactory.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED JULY 9TH, 1927.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 185 (last week 228); scarlet fever, 1679; diphtheria, 763; enteric fever, 101; pneumonia, 777; puerperal fever, 36; puerperal pyrexia, 95; cerebro-spinal fever, 6; acute poliomyelitis, 8; encephalitis lethargica, 32; trench fever, 1; dysentery, 8; ophthalmia neonatorum, 115. There were no cases of cholera, plague, or typhus fever notified during the week.

Deaths.—In the aggregate of great towns, including London, there was no death from small-pox, 8 (2) from enteric fever, 36 (1) from measles, 5 (0) from scarlet fever, 24 (2) from whooping-cough, 26 (7) from diphtheria, 38 (9) from diarrhœa and enteritis under two years, and 31 (5) from influenza. The figures in parentheses are those for London itself.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Lt.-Comdrs. J. F. M. Campbell and R. Lyon to be Surg. Comdrs.

To be Surg. Lts.: H. J. Scott, T. S. Osborne, J. J. Keevil, and F. W. Gayford.

ROYAL NAVAL VOLUNTEER RESERVE.

Proby. Surg. Lt. J. L. Cox to be Surg. Lt.

ROYAL ARMY MEDICAL CORPS.

Capt. H. R. L'Estrange, half pay list, late R.A.M.C., on completion of a period of five years on the half pay list, retires on retd. pay on account of ill-health.

Capt. F. R. S. Shaw to be Maj., and remains secd.

The undermentioned Capts. to be Majs. (Prov.): J. H. Bayley and W. J. Robertson.

R. J. Monahan to be temp. Lt.

REGULAR ARMY RESERVE OF OFFICERS.

Col. C. J. O'Gorman, late R.A.M.C., having attained the age limit of liability to recall, ceases to belong to the Res. of Off.

TERRITORIAL ARMY.

Capt. J. G. Willmore, having attained the age limit, relinquishes his commn. and retains his rank.

Maj. W. Barclay, late R.A.M.C., T.F., to be Capt., and relinquishes the rank of Maj.

Maj. W. M. Mackay, having attained the age limit, is retd., and retains his rank with permission to wear the prescribed uniform.

Lt. W. H. G. Park, late Gordons, to be Lt.

Hygiene Companies: J. L. Turpie to be Lt.

Cambridge University Contgt. (Med. Unit) Sen. Div.: 2nd Lt. D. A. O. Wilson resigns his commn.

Supernumerary for service with O.T.C.: Capt. H. P. Malcolm (late R.A.M.C., T.F.), to be Capt., and to comd. the Med. Unit, Belfast Univ. Contgt., Sen. Div., O.T.C. Capt. W. E. Le G. Clark resigns his commn.

TERRITORIAL ARMY RESERVE OF OFFICERS.

Maj. R. O. Ward, from Active List, to be Maj.

Capt. J. Steedman, from Active List, to be Capt.

ROYAL AIR FORCE.

J. Hill is granted a short service commission as Flying Officer for three years on the active list.

D. Loughlin (late Capt., R.A.M.C., S.R.) is granted a short service commission as Flight Lt. for three years on the active list.

Flight Lt. J. R. Crolius is promoted to the rank of Squadron Leader.

Flying Officer H. P. Sutcliffe (Temp. Capt., General List, Army, Dental Surgeon), relinquishes his temporary commission on resigning his commission in the Army.

The Duke of Connaught has appointed Col. Sir John Atkins, K.C.M.G., and Dr. Marcus Antonius Johnston De Lavis-Trafford to be Physicians in Ordinary to His Royal Highness in the room of Col. Sir Edward Scott Worthington, K.C.V.O., C.B., C.M.G., C.I.E., resigned.

Correspondence.

"Audi alteram partem."

DIET AND DIETISTS.

To the Editor of THE LANCET.

SIR,—We, the undersigned, wish to place on record our belief that the current statements that cancer, appendicitis, and many other diseases are the result of the use of white bread, are unwarranted, there being a complete absence of scientific data to justify them. Such statements are calculated to cause unjustifiable alarm in the public mind.

While we readily admit that vitamin B, which is essential to health, is present in wholemeal flour and practically absent from white flour, we do not subscribe to the statement that it is not contained in white bread, and that the use of white bread denies the human system the necessary amount of this vitamin. Not only is it difficult for a European to omit essential quantities of vitamin B from his diet, seeing that this principle is present in many other forms of food, but it is undoubtedly present in white bread also. The fact is that any lack of vitamin B in white flour is definitely remedied when the flour is made into bread by the addition of yeast, which contains plenty of it.

The importance of vitamins in the diet must not be allowed to obscure the necessity also for the requisite number of calories, which represent the energy or heat value of food so essential to all, and to manual workers in particular. Bulk for bulk, white bread yields more calories than any other form of carbohydrate food in daily use, with the possible exception of haricot beans. From economic considerations it is therefore better and cheaper for a family of limited means to continue to eat white bread rather than to change to another variety, which may or may not agree with them, and in any case would have to be consumed in larger quantities in order to give the same calorific value.

Important and frequently overlooked factors in the selection of a correct dietary are palatability and appearance. An article of diet which appeals to the eye and the palate by its appearance and flavour is more easily digested than one which is unattractive and not so well relished, even if it contains a more generous proportion of vitamins. This is a psychological aspect of digestion which has been recognised throughout the history of medicine and gastronomy, but entirely disregarded in certain recent propaganda.

One of the claims advanced in support of wholemeal bread is the fact that the bran of the wheat berry, which is excluded from white flour, provides the "roughage" stated to be essential because of its scouring effects on the intestinal tract. But most people obtain all the "roughage" they require from other foodstuffs; moreover, there are many individuals for whom this "roughage" is definitely harmful, and for whom it is a safeguard to eat white bread, which has no "roughage."

For the foregoing reasons we desire, in the public interest, to place on record that in our opinion:—

1. The case for wholemeal bread has been overstated.

2. The allegation that white bread is responsible for certain grave illnesses is not supported by scientific facts.

3. Although wholemeal bread is a good article of diet for many people, white bread of good quality is also a wholesome and nutritious food.

4. There are no good reasons for thinking that the substitution of wholemeal bread for white bread in the national diet would make for material improvement in the national health and physique.

We are, Sir, yours faithfully,

(Signed) GLADYS HARTWELL, D.Sc.,
Lecturer on Physiology, King's College for Women (Household Science Department), University of London.

THOMAS HORDER, K.C.V.O., M.D., B.Sc., F.R.C.P.,
Physician-in-Ordinary to the Prince of Wales.

S. G. MOORE, M.D., D.P.H.,
Medical Officer of Health, Huddersfield; Milroy Lecturer, 1916; Chadwick Lecturer, 1917 and 1923.

V. H. MOTTRAM, M.A.,
Professor of Physiology, University of London.

H. E. ROAF, M.D., D.Sc.,
Professor of Physiology, London Hospital Medical College, University of London.

T. B. WOOD, C.B.E., F.R.S.,
Drapers Professor of Agriculture, University of Cambridge.

To the Editor of THE LANCET.

SIR,—Sir Thomas Horder, in his recent MacAlister lecture, makes statements which are not in accordance with facts. Regarding the quantity of food, he states "there is no general consensus of opinion as to what

this requirement in calories actually is." The subject is not one about which "opinions" can exist. Calorimetry is an exact science, and the calorie requirements of individuals under various conditions, whether engaged on physical or mental work, have been accurately measured. It is unfortunate that Sir Thomas Horder is "unimpressed" by data obtained by precise methods. There is no doubt about the accuracy of the data. During the war the Royal Society issued a report upon the average calorie requirements of men and women of diverse occupations, and the practical value of these figures was proved by their successful use in the rationing of the fighting forces and of civilians. The best account of this work is given by the late Prof. E. H. Starling in the "Feeding of Nations." In everyday life such calculated economy of calories is not necessary, and the tendency is to eat rather more than is actually needed.

As to the comparative calorie values of wholemeal and white bread, both kinds give an average of about 1000 calories per pound, variations being due to differences in the water content. As to the amount of fibre, white bread has from 0·2 to 0·5 per cent., and wholemeal from 0·5 to 1·5 per cent. The difference is not great, and this small percentage of fibre cannot adversely affect normal digestion.

The question really at issue is in respect to the quantity of vitamin B in these two kinds of bread and in the diet as a whole. The addition of yeast to white flour in the baking of bread is not overlooked by scientific workers, but the point is that not enough yeast is added to compensate for the loss of vitamin B from the whole grain in milling. Ten per cent. of baker's yeast is needed to make good the loss, whilst bread, as usually baked, contains from 1 to 2 per cent. As much white flour is consumed in the form of cakes, pastry, puddings, &c., in which there is no yeast, as is consumed in the form of bread. The argument that "it is of very minor importance" as to whether we use wholemeal bread or not because "other common foods—namely, eggs, peas, beans, lentils, and nuts are very rich in this same vitamin"—is fallacious. The quantity of B-vitamin in these foods and the quantity of these foods actually consumed is disregarded by Sir Thomas Horder and others. If the quantities of these foods, which are eaten, are actually measured, it will be found that we do not eat enough of them to compensate for the absence of vitamin B from white flour, sugar, chocolate, fat, and meat.

The actual quantity of vitamin B in any foodstuff cannot yet be measured directly, but the minimum quantities of the various foodstuffs needed to supply enough vitamin B for health have been determined by Dr. Harriette Chick at the Lister Institute and also by my own experiments. I have found that the B-vitamin requirement could not be measured in terms of a daily dose, but that the supply must be proportional to the total calorie consumption. The vitamin-B value of various foodstuffs was estimated by feeding experiments upon birds and rats, and the applicability of the results to man has sometimes been questioned. We know, however, the proportion of whole barley required in the ration to prevent beri-beri in the Japanese Navy, and find that this corresponds with the requirements of birds. To provide enough vitamin B in a diet otherwise devoid of it, at least 40 per cent. must consist of wholemeal or some equivalent foodstuff, such as pulses or nuts. In most households these foods are seldom used and then only in *small* quantities. To get enough from eggs, the commonest daily foodstuff apart from cereals, it has been found that almost half the diet must consist of the yolk. Green vegetables and fruits contain very little; potatoes are better, but must be eaten in the proportion of 9 parts of potato to balance 1 part of white flour or sugar, &c.

Reviewing the average daily consumption of all the foods supplying vitamin B in the ordinary mixed diet, the total is not sufficient to balance the white flour, meat, sugar, and other foods devoid of vitamin B. The easiest and cheapest way to ensure enough is to use nothing but wholemeal flour in all bread, cakes, puddings, &c. The other alternative, if white flour is preferred, is to include some food very rich in vitamin B, such as dried yeast in an amount equal to 4 per cent. of the whole diet, or wheat germ equal to 6 per cent., or marmite equal to 10 per cent. These are the minimum quantities. It is well known that *absence* of vitamin B leads to beri-beri, which is seldom or never seen in this country. McCarrison has pointed out that the early stages in the disease are digestive and heart troubles. The symptoms found in my animals and birds on too little vitamin B were dilated heart, intestinal stasis, swollen appendices. These symptoms are more fully described in the recent and important paper by Dr. M. J. Rowlands. On the shortage of vitamin B these symptoms are chronic instead of being the early stages of beri-beri. They are the common everyday troubles from which many people suffer, and their cause is most probably from a shortage—i.e., too little—vitamin B.

This is the crux of the food question at the present time. There is no doubt that the daily food contains too little vitamin B. Do we get enough of the other vitamins? In many cases there appears to be too little vitamin A and D as evidenced by rickets. Do we get ample vitamin C? Probably most people do, as the fresh fruit and vegetable consumption is fairly large. These points are not considered in Sir Thomas Horder's lecture, but are of importance in the study of dietetics.

I am, Sir, yours faithfully,

R. H. A. PLIMMER.

St. Thomas's Hospital Medical School,
July 16th, 1927.

To the Editor of THE LANCET.

SIR,—I read with much appreciation Sir Thomas Horder's lecture on this subject in your last issue, and I congratulate him on the sanity of his views, and the clearness and common sense of his expression of them.

I know of no advantage possessed by wholemeal bread over white bread except its possible "scouring" action on the mucous membrane of the colon, and even such mechanical irritation of a mucous membrane is probably a disadvantage, owing to the constancy of the irritation and interference with assimilation. On the other hand, there are two disadvantages possessed by wholemeal bread as compared with white bread which were presented in evidence given before the Departmental Committee of the Ministry of Health on the Treatment of Flour with Chemical Substances, of which committee I was a member. The reference of the Minister of Health to that committee did not convey any instructions to inquire into or report on the relative advantages or disadvantages of the various forms of bread, but incidentally evidence was given bearing on that point. One piece of evidence was to the effect that the preference for white bread among hard manual workers (which was in existence before the artificial bleaching of flour commenced) is probably due to the production after consumption of more calories per pound in the case of white bread than in that of wholemeal bread. Experiments had shown that 1250 calories were produced from a pound of white bread made with patent flour, and only 1050 calories from a pound of wholemeal bread. The main difference between the two breads is that the less digestible matter of the wholemeal flour is taken out in order to produce white bread. The other disadvantage of wholemeal bread is an economic one in that it contains 8 to 10 per cent. more moisture than white bread, so that the consumer is paying for that 8 to 10 per cent. of extra water at the price of bread. This roughly means that for every £11 paid for such bread £1 is being paid for the additional water.

I welcome Sir Thomas Horder's remarks on the question of colonic stasis as much as I deplore the campaign of propaganda in connexion with that nebulous idea.—I am, Sir, yours faithfully,

Limpsfield, July 16th, 1927. ARTHUR P. LUFF.

To the Editor of THE LANCET.

SIR,—Everyone will agree with Sir Thomas Horder in deprecating extreme or personal views in attempting to educate the layman in matters of health, nor will one grudge him his obvious enjoyment in laying out the uneducated "faddist" even though so easy a victory be deemed unworthy of so skilled a swordsman. Unhappily he has succeeded, I trust unwittingly, in conveying the very strong impression that in his opinion (and it is an opinion which carries no small weight with the public) there is no necessity for any concern as to the dietary habits of the bulk of the population.

It is common knowledge that over-eating is the prevalent dietetic fault in the class which is in a position to frequent the consulting-rooms of the West End of London. If more moderation and common sense were exercised by the well-to-do there would be little fault to find in their dietary, since the variety of their foodstuffs insures them against any serious deficiency. But they represent a mere fraction of the community. For the great bulk of the people the *integrity* of their staple foodstuffs, strictly limited as they are in quantity and variety, is of vital importance. It is no use begging the question and, having taken for granted that everyone gets a "wholesome and mixed diet," pointing out a few directions in which they may go wrong on it. The average dietary of the millions who subsist on incomes of less than £250 a year is neither wholesome nor sufficiently varied.

Sir Thomas Horder's quibble about vitamin B in white bread is unworthy of him and is utterly discredited by the majority of dietary experts. It is not, they tell us, the actual quantity of this vitamin consumed that matters, but the ratio that quantity bears to the total food taken. The amount of vitamin B in white bread is very small, and it does not serve to balance the starch consumed with it. The correct balance is to be found in nature's unspoilt product. Nor is the deficiency compensated for in the average dietary by the use of expensive eggs or by the very limited amount of lentils, peas, beans, and nuts which appear in the poor man's dietary. One would think that wholemeal bread is a novelty in human experience. It is white bread that is the innovation. If the cellulose of whole cereals is so disastrous in its effect it is surely remarkable that man has survived his machine-less past.

Sir Thomas Horder says that there are few established facts as to the connexion between diet and disease. It would be nearer the truth to say that there are few better established facts in our knowledge of the causation of disease. The public will continue to form its own ideas as to the wholesomeness of their diet until it is educated as to the real meaning of the word. Scoffing at the extremist will only serve to encourage ignorance and self-indulgence.

I am, Sir, yours faithfully,

S. HENNING BELFRAGE.

Gloucester-place, W., July 16th, 1927.

DIPHTHERIA IN LONDON.

To the Editor of THE LANCET.

SIR,—Whilst Mr. Maben recognises agreement on the published facts of diphtheria incidence and mortality in London, we differ materially as to their significance and in our respective points of view—namely, the need for prevention and the efficacy of treatment. The latter is not in question, and all reference to it was purposely avoided in the compilation of my report, the burden of which was and is prevention.

Mr. Maben's plea in mitigation of London's diphtheria record encourages an attitude of complacency in the face of evidence which cannot be ignored, however fully reliable antitoxin treatment may be, if promptly enough applied, in bringing about a decline in the case mortality.

The following facts stand out in the diphtheria records of 1925 and 1926, (1) that in England and Wales some 5500 children under the age of 15 years died of diphtheria (about 2800 under the age of 5 and 2700 between the years of 5 and 15); (2) that in the metropolitan area of London, with its population one-eighth to one-ninth that of England and Wales, over 1000 children under 15 years died of diphtheria, accounting for nearly one-fifth of the England and Wales mortality. (Of these about 600 were under 5 years and 400 between the ages of 5 and 15); (3) that in the school age-group of 5 to 15 years the number of deaths due to diphtheria alone outnumbered the combined mortality from measles, scarlet fever, and whooping-cough by over two to one.

These facts call for publicity rather than the allaying of anxiety in the desire to tone down the "degree of blackness" in London's record.

As regards the means of prevention by T.A.T. immunisation at present being made use of in London, it may be stated that, although prophylactic inoculation against diphtheria, provided in the City of Westminster and boroughs of Holborn, Camberwell, and Deptford (and in Greater London, Willesden, Tottenham, and Hornsey), is meeting with decidedly encouraging response from parents, and similar facilities have lately been made available in Battersea, these five out of the 29 metropolitan boroughs represent only about one-eighth of the London population, and there are a number of other boroughs, notable for higher diphtheria rates and greater overcrowding—e.g., Bermondsey, Bethnal Green, Shoreditch, Southwark, and Stepney, where, though more needed, no such preventive measures have yet been adopted.

I am, Sir, yours faithfully,

J. GRAHAM FORBES.

County Hall, S.E.1, July 18th, 1927.

A DISCLAIMER FROM PROF. STEINACH.

To the Editor of THE LANCET.

SIR,—A medical colleague in London has sent me a copy of an advertisement which appeared in several London journals, headed "Rejuvenation of Facial Beauty and Bodily Energy," in which the Dr. Frederick Heymann Institute misuses my name. May I, through your columns, make it clear that I have no interest in this institute and no personal acquaintance with anybody connected with it, and that I desire to protest most strongly against this unauthorised use of my name?

I am, Sir, yours faithfully,

EUGEN STEINACH.

The University, Vienna, July 7th, 1927.

THE LATE DR. JOHN PURCELL.—Dr. John Purcell, who died on July 11th in his seventy-second year, was educated at Queen's College, Cork, and Dublin, and qualified L.R.C.P. and L.R.C.S. Edin. in 1878. Some 40 years ago he settled in practice at Silsden, near Keighley, Yorkshire. He took a prominent part in the sporting life of the town, and it was largely due to his enterprise that in 1883 there was formed the Silsden Football Club of which he was president. He was also an enthusiastic member of the Craven Harriers. Dr. Purcell leaves a widow, one son, and five daughters.

TUBERCULOSIS IN CARNARVONSHIRE.—In a return made to the Carnarvonshire County Council, the medical officer of health, Dr. Parry Edwards, stated that tuberculosis accounted for 200 deaths annually in the county, and that there were approximately 900 cases of pulmonary tuberculosis on the registers of the medical officers. In some districts the death-rate showed no appreciable improvement during the last 20 years. A considerable number of the cases examined and recommended for hospital treatment did not avail themselves of the facilities offered. There were 63 unnotified cases among the deaths in 1926.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

COMPENSATION FOR IMPROVEMENTS TO PROFESSIONAL PREMISES.

DURING the discussion of the Landlord and Tenant (No. 2) Bill by Standing Committee B of the House of Commons on July 12th, the question of applying the provisions of the Bill to professional premises, and particularly to doctors' premises, was raised.

An Amendment.

Sir RICHARD LUCE moved to insert in Subsection 1 of Clause 12, after the word "business," the words "or profession." He said that he understood that the Government did not intend to oppose this amendment if there was a definite expression of opinion on the part of a considerable number of people that the provisions of the Bill should extend to professional premises. He desired to speak specially of the medical profession. There was a considerable body of opinion in that profession in favour of being included. The British Medical Association had passed a resolution to that effect without any opposition, and the Medical Practitioners' Union had done the same. There was also a considerable demand from dentists to be included, and he was glad that the Government through the Home Secretary had promised that this matter should be left to the free vote of the Committee. There was really no difference between the relation of a doctor or a dentist to his professional premises and the relation of a tradesman to his shop. A doctor depended on the premises where he did his work, and if he was turned out or lost his goodwill it was just as important to him as to a shopkeeper. A doctor might have to improve his premises for professional purposes. He often had to build a garage solely for the purpose of his practice, and in other cases he had to build premises under the direction of the Insurance Act Committee to provide suitable accommodation for his patients. Such an improvement must inevitably be of value to the house in letting it to a doctor on another occasion. Therefore it seemed to him that there was no reason why professional premises of this kind should not be added to the Bill in the same way as shops and business premises.

Mr. MACLAREN said he was sure that the Home Secretary would agree that there were certain people who might be termed professional men who would suffer severely under the strict lines of the original Bill. He therefore wished to support the amendment.

Goodwill and Compensation.

Sir P. PILDITCH said he hoped that both the Home Secretary and the Committee would be careful in giving support to this amendment, because it meant a very large extension of the Bill. The speeches made in its favour had referred mainly to doctors, but what he intended to say applied not only to doctors, but much more largely to other classes of professional men. He did not know whether the amendment would open the door to professional men getting compensation for material improvements made, or whether it would open the door to the whole question of compensation for goodwill. There was something to be said in the matter of improvements, but nothing with regard to the whole question of goodwill. The theory that it was possible for a professional man to have acquired the class of goodwill which this Bill was going to cover was absurd. The goodwill that was to be compensated for under this Bill was goodwill which remained appurtenant to the premises. Could anyone imagine that any doctor, or other professional man, could possibly have created goodwill which he could not take away with him when he left the premises? He did not think that the great extension which this amendment would bring about was justified, because it would do away with the real intention and meaning of the Bill, which was never meant to extend to private residences. They found many cases of houses in Harley-street where three or four doctors carried on their profession. The same applied to Wigmore-street, or to Finsbury-square or Finsbury-circus in the city, where there were great blocks of buildings full of doctors. Every one of them would have a claim, if this amendment were adopted, for compensation not only for improvement but also for goodwill, and they would get a set of circumstances which would make the work of the tribunal almost unthinkable.

Mr. CRAWFURD said he thought that Sir P. Pilditch had excelled himself in his speech on this amendment. He began by complaining that it would, if adopted, greatly extend the scope of the Bill. If the Bill was a good Bill why should they not extend its scope to the greatest possible numbers? Sir P. Pilditch seemed to him to have advocated a very dangerous principle. He said that the Bill was originally intended to help retail shopkeepers, and that it was a pity to extend it beyond that. What a vicious thing that was to enunciate! Surely the Committee was not sitting to help particular classes of people, but to establish certain principles of law, and if more than one class came under the same principle surely it should be extended to those classes as well. What was the difference between the position of the professional man, such as the doctor, and the retail shopkeeper in respect to this principle?

Mr. G. JONES said that if it was right that a man who spent money on improvements should be compensated, and that a man who built up a goodwill should also be compensated, he could not see why they should not extend that principle to the professional man in the way suggested in this amendment. They were trying to help doctors and other professional men and to prevent them from being victimised in the way that tradesmen had been victimised in the past. Suppose a doctor built a surgery. It might be that the surgery would be quite useful for residential purposes, and if the landlord could get the doctor out probably he would be able to obtain an increased rent. In such circumstances why should the doctor not be compensated for the improvements he had made to the premises? He hoped that the amendment would be accepted.

Mr. WOMERSLEY said that his invariable experience had been that when a man required certain premises for professional purposes the owner asked more rent than he would charge to a private resident. He had handled many such cases, in which there had been a row of houses, and when a doctor came along looking for premises to carry on his profession the rent had been put up against him. In these cases the owners realised that they were at liberty to charge more rent. He contended that the doctor or the dentist had a right to be compensated to such an extent as the tribunal might decide. It had been said that a professional man could take his goodwill away with him. Generally speaking he did not think that a doctor or a professional man could take with him the goodwill attaching to his premises. He should support the amendment.

Sir M. MANNINGHAM-BULLER said that no definition had been given of a profession. The profession of a doctor was one in which there was a very strong case for compensation for improvement. In regard to the question of goodwill in connexion with the medical profession, an entirely new outlook was required as to what was a doctor's goodwill. Was the practice which a country doctor bought to be looked upon as goodwill? If the doctor was unable to get a fresh lease was he to get compensation for what he had paid for his practice? He thought that that was a view that some doctors were inclined to take. But if, in a country district, a landlord knew that if he let premises to a doctor he might be rendered liable to pay him the whole of the amount that he paid for the practice, the doctor would find it very difficult to get a house. If the whole of the professions were going to be embraced in the Bill consideration would have to be given to the many different and conflicting views as to what the goodwill of a doctor, or possibly an auctioneer or surveyor and so on, might be. If the amendment were one to allow the payment of compensation for improvements made by such people as doctors and dentists, it would have his support. If, however, it opened up the question of compensation for all the various degrees and forms of goodwill throughout all the varying professions, which were not even yet defined, they would very likely overload the Bill and make it unworkable. If that were to be the result of support of the amendment he should vote against it.

The Home Secretary's Amendment.

Sir W. JOYNSON-HICKS said that he would not ask the Committee to decide one way or the other on the terms of the amendment, but he would put his views before the Committee. He thought that the amendment clearly brought all professional men, both for improvements and for compensation, within the scope of the Bill. That was carrying the Bill considerably further than they had done hitherto. Having been a professional man himself for a good many years, he thought that the type of goodwill in a professional man's business, so to speak, was not the same as in a tradesman's business. He had moved from one part of London to another and it had made no difference to the value of his goodwill. In the Bill they were not dealing with the goodwill of the tenant, but with the pecuniary advantage which the landlord got at the end of the tenancy by the fact that a particular trade or business had been carried on in the house in question. He did not think that the fact that he had carried on the profession of a lawyer or Sir R. Luce the profession of a doctor in a particular house was really going to bring many more patients or persons desiring legal advice to that house after the lease was over if another doctor or lawyer took it. Therefore the landlord would not get very much advantage from the fact that the

business of a lawyer or doctor or sculptor had been carried on in the premises in question. It would be complicating the Bill very much, and would make it very much more difficult, to go into all these questions as to what the landlord had received by reason of the fact that a lawyer, doctor, or sculptor had carried on his profession in the particular premises. In regard to improvements there was more to be said for the proposal in the amendment. A doctor in premises in the country might want to put up a garage; or a panel doctor in the East End of London might think it necessary, owing to increase of business, to enlarge his surgery. He thought that that was just as much an improvement in business premises as when a tradesman desired to enlarge his shop front, and so on. As representing the Government he did not propose to take part in the division on the amendment, but he wondered if Sir R. Luce would accept a suggestion from him, and whether they could all unite to give professional men something, but perhaps not quite all, that they asked for. If the amendment were pressed to a conclusion there was likely to be a strong division of opinion, and the matter might ultimately have to go downstairs to the House to be fought over again. He wondered if they could get out of the difficulty by confining the idea underlying the amendment to the earlier part of the Bill by adding, at the end of Subsection (2 *b*), these words:—

"Provided that, so far as this part of this Act relates to improvements, premises used for carrying on a profession shall be deemed to be premises used for carrying on a trade or business."

That would go a long way to meet the views of the doctor or even the sculptor, and would be a reasonable amendment. If it were generally accepted by members who opposed altogether any extension of the Bill and by those who wanted to extend it further, he thought that it would certainly be accepted by the medical profession, and that the House of Commons would say that the Committee had come to a wise and sensible decision in the matter.

Sir G. HOHLER said that the amendment was clearly inconsistent with the language of the Bill which had already been passed. The language of Clause 4 in regard to the goodwill of a trade or business was quite inapplicable to the profession of a doctor or surgeon or solicitor or barrister. Hitherto they had only dealt with trades and business, but they were now being asked to extend it to the professions. They were now extending the Bill to every private residence, which was not the object of the measure. If the amendment were accepted the gravest difficulties would arise. A landlord would be called on to pay goodwill to a doctor. What would be the value of that goodwill to him? The landlord would never know what he had to pay.

Sir R. LUCE said that he could not quite admit that there was no goodwill in the case of the professional man. In certain circumstances there was goodwill arising out of the place itself, and quite apart from the goodwill of the doctor which had been built up by his professional ability. A doctor might settle in a place and convert a house into a place which became well known as a doctor's house. In many cases those houses went on from generation to generation. But after what the Home Secretary had said he was prepared to leave the matter in his hands entirely. On the understanding that the Home Secretary would move the amendment he had indicated, he (Sir R. LUCE) would withdraw his amendment.

Sir R. LUCE's amendment was accordingly withdrawn.

Sir W. JOYNSON-HICKS then moved the amendment which he had outlined in his speech. He said that the wording might be a little awkward and it might be necessary later to pull the clause together a little. But, at any rate, the amendment brought a profession within the scope of the Bill. He regarded it as a compromise. He took it that the Committee would be prepared to accept it as a whole, though he did not want to force it in any way.

The amendment was agreed to.

PENSIONS ADMINISTRATION.

ON Wednesday, July 13th, the House of Commons went into Committee of Supply on a vote of £38,242,832 for the salaries and expenses of the Ministry of Pensions, Captain FITZROY, Deputy Chairman of Committees, in the chair.

Lieut.-Colonel STANLEY, Parliamentary Secretary to the Ministry of Pensions, said the total sum for which they were asking to carry on the administration of the Ministry this year was £61,442,000, which was still the largest vote submitted by any one minister. This sum represented a reduction of rather less than £2,500,000 on the estimated expenditure for the previous year, and it was the smallest reduction that had been proposed on any of the Ministry's estimates up to the present time. The largest proportionate item in the reduction was in respect of administrative expenses, which had been reduced by 10 per cent. compared with last year. On the other hand, the expenditure on benefits would be reduced by only 3¼ per cent. The administrative cost of the medical services would be £298,700. The administrative expenses now only amounted to 2¼ per cent. of the total vote. They were now within sight of the limit in reduction of the amount of money spent on administration compatible with the efficient working of the Ministry. The total staff of the Ministry all over the country, numbering 9130, included 2741 officers belonging to the medical services—doctors, hospital nurses, orderlies, and clerical officers engaged wholly on medical work—and it included 2486 in the local area offices of the Ministry all over the country, some of whom also were engaged on medical services. On the benefit side of the medical services the amount which they were asking for in this estimate was £2,507,500, a decrease of 8 per cent. on last year's expenditure. Nearly one half of the cost of medical treatment was due to mental cases, which remained fairly constant. The decrease over last year was due to diminishing need for hospital treatment. The vast majority of surgical cases especially had had all the treatment they needed, or could need now, but, of course, there still remained a certain number of cases where the ailments were liable to recur. For those cases it was obvious that they must still retain hospital accommodation, but the number was diminishing, though the necessity for retaining the accommodation would remain for some years to come. On the whole, the hospital population of the Ministry was declining, as it was bound to do. They calculated that this year there would be an average number of in-patients of 14,000 of all classes of cases, medical and surgical, as compared with 15,000 last year. The death-rate among disabled officers and men was slowly though very slightly becoming lower. On the other hand, the deaths among dependents had increased.

Reduction of Vote Moved.

Mr. F. O. ROBERTS (Pensions Minister in the Labour Government) moved to reduce the vote by £100. He said that with regard to the question of treatment he felt a little disquieted at the number of complaints which had reached him and other members of the Committee. They found from the estimates 9400 more patients would probably be treated by their panel doctors or private practitioners. That seemed to him to be a particularly large estimate, and one that could work very unfairly indeed, because a man, though totally incapacitated from work, might find himself deprived of any allowance at all. The Ministry had set up a staff of permanent medical officers and advisers, but if this policy, which now seemed to operate as far as treatment was concerned, was carried to its logical conclusion, it meant that ultimately every ex-Service man who claimed treatment allowance would be sent to his panel doctor or to a private practitioner, and there would be nothing left for the Ministry's doctors to do for them. He hoped that the Minister would be able to disabuse his mind of that fear. A provision was made under another head for sickness grants, and £2000 was allocated for that purpose. There were some 377,000 widows, and children of widows, and the percentage of sickness which must obtain amongst them must be fairly high. He wondered whether £2000 was a sufficient allowance to make in order to meet the legitimate requirements of those who might be affected in some particular way, and he would like to be assured that proper provision was being made so far as sickness allowance was concerned.

The Seven Years' Time-Limit.

Major COHEN said that the British Legion had been pressing the Government for some time about the seven years' time-limit, and the Minister now was able to revise cases which were brought to his notice by exercising his discretion. He thought that the right hon. gentleman did exercise his discretion on many occasions, but there was a tremendous difference between discretion exercised by a minister, however sympathetic, and a statutory right. Great Britain, so far as the time-limit was concerned, was behind other countries and the Dominions. He thought South Africa had no time-limit. Canada had a seven years' time-limit, but any record disablement through service was considered as equivalent to an application for a pension. If a man in the Canadian Army during service suffered from bronchitis and went to hospital, and if at any time during his lifetime he suffered from bronchitis arising out of it, he was entitled to put forward a claim for pension. Australia had no time-limit. France had a five years' limit, but they extended it to Dec. 31st, 1928, and they might extend it further. In regard to Germany, he could not find out whether they had a fixed time-limit or not, but he was given to understand that a man could lodge a claim within any period, and if it was turned down he had a right to go to a higher tribunal. America had extended her time-limit so far as tuberculosis cases were concerned. It was particularly in regard to tubercular cases and cases arising from gas poisoning that the British Legion pressed forward this revision. The Legion had its own home for men suffering from tuberculosis at Preston Hall, near Maidstone, and they

were there experimenting to see what was the effect of poison gas on the lungs. Such cases as those might occur well outside the seven years' limit. It seemed to him that it was particularly in cases of tuberculosis and illnesses arising out of gas poisoning that the seven years' limit was quite likely to fail. He asked the Government whether they could possibly reconsider the question of altering the limit, at any rate so far as the men he had referred to were concerned.

Difficulties in Assessing Final Awards.

Dr. DRUMMOND SHIELS said in the case of final awards for those under 20 per cent., where there was no permanent pension, the point had been made over and over again that it was impossible for any medical man, or any body of medical men, to say that in 52 weeks, or in 104 weeks, a man's condition would be such that it could be met by a certain money payment, and that thereafter the obligations of the State were ended. That was quite impossible, and they claimed that Circular 30, which they had to work at the present time, was a very difficult procedure. Another difficulty existed in connexion with these cases. A man went for treatment and he was told that his condition was such that treatment by a panel doctor was quite sufficient. The panel doctor might certify that the man was unfit for work altogether, and it seemed as if in many of these cases there was a rather mean attempt to save the allowances to which the man was entitled. They ought also to give a right to every man to a revision of his case on the certificate of a medical man. The Ministry did not show that respect to the certificates of either panel or ordinary medical practitioners which they ought to show. The Ministry would not accept, or sometimes even consider, any outside medical opinion. He did not think they had any justification for that attitude. It was quite obvious that where men since the war had suffered from malaria, bronchitis, and various other diseases, and were in a low state of health, they were more susceptible to any other illness. In their cases ordinary ailments tended to take a more serious form, and they ran much greater danger of death. Why should a rather mean discrimination be made when death was not wholly due to war disability? He had always felt that the Ministry in this matter did not realise the wishes of the British public. He felt that here, as in all these pensions regulations, the decent man was always penalised in comparison with the man who ran to the dressing station or into hospital on the slightest provocation and had therefore the best medical history sheet.

Tuberculosis and War Service.

Mr. MORRISON said that some ex-Service men who had experienced long periods of unemployment and had only a small disability pension were unable to get proper food, they developed malnutrition, and some of them finished up in a sanatorium suffering from tuberculosis of the lungs. When that happened—and he had known quite a number of these cases—they were refused a pension in respect of tuberculosis, although they might be getting a disability pension in respect of a wound. The officials of the Ministry contended that the tuberculosis had been neither caused by nor aggravated by war service. If a man who had been out of work for years because of his disability and who had been slowly starved, developed tuberculosis of the lungs, surely the Regulations of the Ministry ought to be wide enough to say that that man's disability had arisen indirectly from war service.

Major HILLS said he had quotations from letters in 232 cases, all from soldiers who had received the light metal legs. They were mostly cases of amputation below the knee, and they all expressed the very great benefit which the light metal leg had given to them. One of these soldiers said in his letter: "I wear the leg all day without pain. It is 2 lb. lighter and I do not get the heavy drag of the old wooden leg." Another soldier wrote: "All trouble ceased with the wearing of a metal leg, and I have a better pull on life. My walking efficiency has increased by 100 per cent." He (Major Hills) hoped in future that soldiers would be given a choice in all these cases and would be allowed to have the light metal limbs if they wished to have them.

Widows' Pensions.

Mr. NAYLOR said that several cases had come to his notice of widows who had been unable to claim a pension on the death of their husband because the death certificate showed that the pensioner died from a disease other than that in respect of which he received a pension. He did not want to enter into a disquisition upon the weaknesses of the medical profession, but some of them had reason to believe that doctors were not always meticulously careful when they entered their names on death certificates. He had two cases brought to his notice in which the circumstances appeared to him to be extremely doubtful. In each case, because the death certificate showed that the man had died from a disease other than that in respect of which he had been pensioned, the widow failed in her claim. It seemed to him that the Minister might exercise a little closer supervision in the matter of these certificates issued by hospital doctors. He suggested that the Minister might consider the advisability of issuing a circular asking doctors in hospitals when they had to certify the death of pensioners who had been under the care of panel doctors to consult with those doctors before signing the certificate, and to be extremely careful as to how they signed away the rights of a widow to claim a pension. The number of such cases was very large throughout the country. Many men whose physical condition had deteriorated to an extent which incapacitated them for work had told him that they had been refused the assistance they asked on being sent to a military hospital. It seemed to him that the doctors of the Ministry of Pensions who examined these men very rarely gave them the benefit of the doubt, and many a man had suffered by reason of his not getting the best possible treatment because he was unable to get treatment without getting rest from his employment. They struggled on because they could not afford to be sick. He suggested that the Minister might consider the advisability of allowing these men to go to a military hospital and secure the treatment allowance which would enable them to get well enough to resume their employment.

Discretion in Reopening Neurasthenia Cases.

Sir W. GREAVES-LORD urged that the Minister should consider the question of exercising discretion in reopening cases of neurasthenia. The difficulty of rigid regulations in matters of this kind was largely this, that medicine was not merely not an exact science, but medical men were constantly revising their standards. They were constantly finding out that their practice had been mistaken and that the origins of disease were very much further back than they thought they were. He did not think there was anything in which this was more marked than in connexion with neurasthenia. It might come on soon after circumstances which gave rise to disability; it might come on as part of a very long history, sometimes apparently disconnected, and when it did come on in that way it was infinitely worse from the point of view of disabling the sufferer. He was not quarrelling with the decision, but he did bring before the Minister of Pensions recently a case where a member of the medical profession of great renown expressed the very definite view that neurasthenia quite incapacitated a person for work. In the case of a servant of the London County Council the opinion of Sir John Collie was that he was suffering from neurasthenia as a result of war service and disabilities received in war service. Yet that case was apparently one which could not be reopened. He thought where medical men themselves could not set up any exact standard, it was going very far indeed for a Government department to try to set up an exact standard for them. He hoped it might be possible, particularly in cases of neurasthenia, to exercise a wider discretion in reopening cases of that kind.

Reply of the Minister of Pensions.

After further debate,

Major TRYON said that as a matter of fact the wooden limb was lighter than the light metal limb. So far from the former limb being condemned they had medical reports from various limb-making centres bearing out the statement that the wooden limb, besides being lighter, required less repair. In any case the surgeon decided which was the best limb in each particular case. No part of the work of the Ministry had been more difficult, had received more attention, or had been more desperately trying to the medical staff engaged on it, than the work of caring for mental cases and neurasthenics. He paid a visit a few weeks ago to a new modern hospital at Cobham in good surroundings. In that hospital they had about 500 neurasthenics and were doing their best for them. There was also Edenhall, near Edinburgh, with nice grounds, and there was a beautiful hospital at Erskine House on the Clyde. Close to London there were two or three very charming houses and grounds in which these men were being treated. As to the seven years' limit, he would remind the Committee that that was the unanimous decision of the House of Commons and it had been maintained by successive Governments. It was true that in some other countries a shorter period had been adopted, but experience seemed to suggest that our period was the right one. On the question of final awards he would point out that all through the demand had been for security for the ex-Service men. They did not want to be examined or go before medical boards; they wanted to be left alone. The main point was that under the system of final awards over 300,000 men had secured absolute protection against any reduction of their assessment by medical boards for the rest of their lives. That was a great benefit for these men.

Progress was reported and the debate was adjourned.

HOME OFFICE AND INDUSTRIAL DISEASES.

On Thursday, July 14th, the House went into Committee of Supply on a vote of £257,647 for the salaries and expenses of the Home Office, Captain FITZROY, Deputy Chairman of Committees, in the chair.

Mr. RHYS DAVIES said there were about six million workpeople engaged, and their safety in their miscellaneous occupations was in the hands of the Home Office. There were every year nearly 1000 fatal accidents and approximately 170,000 non-fatal. Were it not for the law and the enforcement of certain regulations the figures would be more alarming. The Home Office had a factory inspectorate of 207 persons, and he wished to be assured that that staff was sufficient. Unfortunately the number of fatal and non-fatal accidents was not declining at a proper rate, and they had a right to protest against apathy of the public and of the Home Office. How far would the Home Secretary carry the propaganda in factories in favour of "Safety first"?

Mr. TINKER, in reference to the Order of July 1st in regard to the Workmen's Compensation Act, quoted the Order: "Subcutaneous cellulitis over the patella (miners' beat knee) and acute bursitis over the elbow (miners' beat elbow) is revoked, except as regards cases arising before the commencement of this Order," and said that the Home Secretary had extended it to include bursitis of the knee, but the inclusion of the word "acute" was unfortunate. A miner was on his knees most of the time, and bursitis was likely to arise. But under this Order it had to be acute before a man could get a certificate. The policy of the House was always to treat disease and illness in the first stages, yet here a miner was compelled to carry on until he was totally incapacitated. He appealed to the Home Secretary to drop out the word "acute."

Mr. HILTON said he had considerable experience of mills in Lancashire, and most of the accidents he had come across had been due to carelessness. The more fencing put round the machinery the more likelihood of accidents—speaking more especially of fast-revolving machinery where the chief accidents were from burning and friction. It had been suggested—surely not seriously—that every big mill should have a medical staff. In every large town in England they had a most up-to-date medical staff in the local infirmary on the spot to which cases could be taken and treated with scientific knowledge. They provided first-aid in every mill, and a medical man attached to every mill would be unwarrantable.

Mr. ROBINSON said that there was a committee sitting with regard to accidents and also a committee inquiring into dust and fibre. What were those committees doing? The injury from accidents was nothing compared with that from dust, where the life was taken away from a man between 30 and 40.

Dr. VERNON DAVIES said that in regard to factory regulation they had to depend largely on the honesty and goodwill of employers and their desire to do their best for their workpeople, as well as to obey the law. There were many who regarded it as a retrograde step when the inspection of accidents was taken away from the certifying surgeons. That was done by decree of the Privy Council to save £7000 per annum. Formerly accidents were reported to the certifying surgeon, who had to proceed to the mill and see the actual machine, decide between the negligence of the employer and the carelessness of the worker, and make suggestions on the spot. Now a report, possibly inaccurate, was made to the inspector, who decided whether to visit the place or not. The certifying surgeon had to go to the office and certify and never need go into the works. He would like to ask the Home Secretary what his present opinion of the certifying surgeon was. The Secretary for Mines (Colonel Lane Fox) had obtained the impression that possibly certain alterations would be carried out. That was the gist of an answer given in the House. Dr. Davies would like the Home Secretary to inquire through the department into the work of the certifying surgeon in the last few years and to compare it with the work they did formerly, and see whether one of the most efficient State services, and also one of the cheapest, was not the certifying surgeon. Any alteration in the status of the certifying surgeon was probably a retrograde step. He was at present a trained medical man with a very good knowledge of industrial processes. Every accident was reported to him, he was frequently in the mill and constantly on the look-out for errors, and he could be of the greatest use to the Home Secretary and his department. Accidents were not always the fault of the staff, or even the fault of the workmen; they were sometimes the fault of the guard that was put on the machine. The medical man was of use at a time like that. The medical man's knowledge in coöperation with the factory inspector could be a very great help. He would be glad if the Home Secretary would pay particular attention to the possibility of securing coöperation between the work of the surgeon and the factory inspector and of entrusting the inspection of accidents again to the certifying surgeon.

Mr. PALING urged that silicosis should be scheduled in connexion with the mining industry so that men suffering from this disease could obtain compensation. He said that in the opinion of doctors who had to deal with these cases coal-miners were just as liable to contract the disease as men who worked, say, in a silica mine. He also asked, in view of the alarming increase of nystagmus, that something further should be done.

Sir W. JOYNSON-HICKS said that obviously if the Home Office had more factory inspectors there would be more inspections made, but he had to balance the claims of the Treasury with the claims of perfection in administration. He was bound to ask—and they were responding gallantly to the appeal—the departmental staff of factory inspectors to work harder and harder in order to cope with the increased work without having to apply to the Treasury for an increase in the number of inspectors. When they had got through their difficulties, and when perhaps the Factory Bill of next year had passed into law, that would be the time to approach the Treasury. In accordance with the report of the Departmental Committee on Industrial Diseases no disease was scheduled by the Home Office unless it complied with certain conditions. First of all it must be a disease and not an accident within the meaning of the Act. Secondly, it must be a disease such as would disable the workman for the minimum period, not less than four days, necessary for compensation. Thirdly, it must be a disease specific to the employment, so that its causation by the employment could be determined in individual cases. He had been in consultation with the Ministry of Health, and they had agreed to institute a special investigation into cattle ringworm disease with a view to determining how far it could properly be included in the list of industrial diseases. He hoped the investigation would be completed very shortly, and then the matter would come up for final decision. Miners' nystagmus had always been scheduled. In 1908 there were 386 new cases and 74 old cases. In 1925 there were 3445 new cases and 7890 old cases. The effect was to reduce the output of the industry in which the disease occurred. After very full investigation a committee of the Medical Research Council made in 1923 a number of recommendations for improving the position. The Home Office at once drew up a scheme to give effect to those recommendations, and it was not the fault of the department that the matter had not been pressed forward. The Mining Association had furnished him with their views on the scheme, but the Miners' Federation had not yet done so. If the views of that organisation were such as commended themselves to him he hoped to have a better scheme before long for dealing with this terrible disease. As regarded bursitis, the point he had to consider was how far bursitis without inflammation was incapacitating. The Medical Research Council had dealt with the point and said:—

> "A chronic enlargement of the bursa in front of the knee or elbow should not be certified as an industrial disease unless the chronic condition becomes acutely inflamed as the result of work. Chronic enlargement of these bursæ does not cause any incapacity. The certifying surgeon must always satisfy himself that the condition is an acute inflammation arising out of the workmen's employment and of sufficient severity to cause loss of earning power."

If any medical evidence could be produced to prove that there was a bursitis which was not associated with acute inflammation, but which nevertheless disabled the worker, he was quite prepared to reconsider the position.

Dr. DAVIES: A man might have bursitis causing a certain kind of pain which would not come under the definition.

Sir W. JOYNSON-HICKS: It is no doubt very difficult for the layman to define. I did not read the whole of the report of the Medical Research Council. There is a further clause which may deal with the point raised by my hon. friend:—

> "The certifying surgeon must always satisfy himself that the condition is an acute inflammation arising out of the workman's employment and of sufficient severity to cause loss of earning power."

That is the position which I have been bound to take up, and unless hon. Members can produce medical evidence that bursitis in itself can cause not merely pain, but loss of earning power without it becoming acute, and even before it becomes acute or inflammatory, I must be bound by the medical report placed before me. Continuing, the right hon. gentleman said that the last disease with which he would deal was silicosis. That disease had not been scheduled, but he could provide compensation for it under special powers conferred by the Workmen's Compensation and Silicosis Acts. Inquiries were proceeding that might lead to the formulation of a scheme.

The vote was agreed to.

DISEASES OF ANIMALS BILL.

ON Friday, July 15th, on the motion for the third reading of the Diseases of Animals Bill,

Mr. A. V. ALEXANDER said that it was argued by the Minister of Agriculture that the Bill would help to get rid of tuberculosis in the herds of the country. While it would not be detrimental from that point of view, it would not secure anything like the amount of advantage either to the herds or to the health of the people that was desirable. The percentage of tuberculosis to be found in the herds of the country was stated to be of very varying degree according to where the statement came from. Some people said that it was as high as 70 per cent. in milch cows of from 10 to 15 years old; others said it was 30 per cent. to 40 per cent., taking dairy cattle as a whole. But they had plenty of evidence from milk tests to show that there was very real danger to the people of the country from the failure to arrest in any great degree the existence of tuberculosis in our herds. Dr. Nathan Raw had said: "It is a sad reflection on our milk-supply to know that over 15 per cent. of all milk supplied to the public contains living tubercle germs which have the power to produce disease in children and young adults."

Brigadier-General BROWN said that one reason why he welcomed the Bill was that he thought Canadian heifers coming into this country would be much more liable to get disease, especially tuberculosis, than our own heifers.

Mr. GUINNESS (Minister of Agriculture) reprobated propaganda against our own dairy cattle at a time when British agriculture was in great difficulty. It was cruel to condemn a very wholesome food and a very valuable agricultural product upon misleading evidence. The hon. Member quoted Dr. Nathan Raw as an authority for the statement that 15 per cent. of the milk in this country was tuberculous. They had got some figures as the result of 18 months' working of the Tuberculosis Order. Between Sept. 1st, 1925, and March 31st, 1927, owing to the notification of tuberculosis on dairy farmers' premises, and owing to evidence got from the other end by tuberculous milk being traced back, inspections were made of premises, including 1,051,000 cattle, a seventh or eighth of the total head of cattle in the country. Among those cattle there were 792,000 cows and heifers, and of those there were 21,871 which were found to be suffering from those forms of tuberculosis which brought them within the Order—not 15 per cent., but 2·7 per cent. No doubt the one-half of 1 per cent. which was the figure he had quoted could easily be brought up to 15 per cent. in respect of milk sold over the counter in certain unfortunate dairies. He thought that was the explanation of the terrifying but quite unfounded figure given by Mr. Alexander.

The Bill was read a third time and passed.

HOUSE OF LORDS.

MONDAY, JULY 18TH.

Midwives and Maternity Homes (Scotland) Bill.

THE Midwives and Maternity Homes (Scotland) Bill (which has already passed through the House of Commons) was read a second time.

Medical and Dentists Acts Amendment Bill.

The Medical and Dentists Acts Amendment Bill, a measure which is to confirm and give effect to certain agreements between representatives of Great Britain, the Irish Free State, and Northern Ireland as to the registration and control of medical practitioners and dentists, and to validate certain acts done by the Dental Board, was read a second time.

HOUSE OF COMMONS.

WEDNESDAY, JULY 13TH.

Slum Clearance Schemes.

Mr. BUXTON asked the Minister of Health whether, in view of his recent statement that progress would shortly be made with the improvement of slum conditions, he would state what steps he proposed to take.—Major COPE replied: Ninety-eight schemes for the clearance of slum areas in various parts of the country have so far been confirmed, and my right hon. friend anticipates that in view of the progress which is being made generally with house building, local authorities will shortly be able to turn their attention in a greater degree to this aspect of the housing problem. As the right hon. Member is no doubt aware, local authorities already have very wide powers, and provision is made in the Housing Act of 1923 for the grant of Exchequer.

MONDAY, JULY 18TH.

Milk Consumption in Great Britain.

Major GLYN asked the Minister of Agriculture what was the estimated daily consumption of fresh and tinned milk in Great Britain, respectively; what proportion of the fresh milk was distributed by the large dairy companies; how much through the agency of coöperative retail societies; and what proportion of the daily supply was either Grade A or Certified.—Mr. GUINNESS replied: Until the results of the Scottish Agricultural Census and of the Industrial Census of Production for Dairy Produce are available, any figures as to the consumption of fresh milk in this country can only be very approximate. It is estimated, however, that the average daily consumption of fresh milk in Great Britain is probably between 2¼ and 2½ million gallons, and of imported tinned milk (used as liquid milk and for other purposes) about 6500 cwt., or the equivalent of 210,000 gallons of liquid milk. With regard to the second and third parts of the question, I understand that in the larger towns and cities from 12 to 15 individual firms, including retail coöperative societies, handle, as a rule, the bulk of the milk-supplies, but I have no precise information for the country as a whole as to the proportion handled by what my hon. and gallant friend calls "the large dairy companies" or by the "coöperative retail societies." It is estimated that "Certified" and "Grade A" milk (including tuberculin-tested milk) account for about 1 per cent. of the fresh milk consumed.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At a Congregation held on July 14th the following degrees were conferred:—

M.Chir.—R. S. Corbett.

M.B. & B.Chir.—G. L. Alexander, G. M. Tanner, H. F. Griffiths, H. P. Nelson, and E. S. Page.

B.Chir.—H. S. Allen, C. F. Watts, H. M. Elliott, V. C. J. Harris, C. E. Kellett, D. N. R. Jones, and R. Watson.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a quarterly meeting of the Council held on July 14th Sir Berkeley Moynihan was re-elected President, and Sir Cuthbert Wallace and Mr. F. J. Steward were re-elected Vice-Presidents for the ensuing year. Sir Cuthbert Wallace and Mr. Hugh Lett, the recently elected members of Council, were introduced and took their seats in the Council. In consequence of the redecoration of part of the museum it was decided to close it during August as well as September, and, if necessary, for part of the present month. A vote of thanks was given to Lady Bland-Sutton for presenting to the College a portrait by the Hon. John Collier of Sir John Bland-Sutton, past-President of the College.

The following professors and lecturers were elected for the ensuing year:—

Hunterian Professors.—Sir Arthur Keith, Mr. Percy Sargent, Mr. G. Grey Turner, Mr. H. S. Souttar, Mr. W. E. M. Wardill, Mr. E. Miles Atkinson, and Mr. J. H. Sheldon.

Arris and Gale Lecturers.—Mr. A. Abrahams, Mr. A. Fleming, Miss Ida C. Mann.

Erasmus Wilson Lecturers.—Mr. W. D. Newcomb, Mr. C. E. Shattock, Mr. C. P. G. Wakeley.

Arnott Demonstrator.—Sir Arthur Keith.

The diploma of Fellow was conferred upon Richard A. Brews, London Hospital, and the diploma of Member was conferred upon Phyllis M. Robottom, Westminster Hospital.

The under-mentioned diplomas were conferred upon the following candidates, jointly with the Royal College of Physicians:—

Diploma in Laryngology and Otology.—M. O. Abdeen, J. B. Baird, J. Bernstein, C. H. C. Byrne, E. E. Day, E. W. Gutteridge, D. R. Macgregor, R. M. Savage, W. M. Snodgrass, G. E. Tremble, Mary A. Wiles, and W. C. S. Wood.

Diploma in Psychological Medicine.—S. M. Coleman, G. F. Graham, F. H. Healey, S. Hillier, E. G. Howe, W. McCartan, Doris M. Odlum, T. Paton, F. E. E. Schneider, F. L. Scott, G. N. O. Slater, and T. Tennant.

Licences in dental surgery were conferred upon the following candidates who have passed the requisite examinations and have complied with the by-laws:—

H. J. Askew, Royal Dental; R. A. Bagg, V. H. D. Bascombe, E. Britstone, and N. B. Coltart, Guy's; R. R. Dalby, Manchester; R. L. Dale and E. J. Dalling, Guy's; A. Deverall, C. T. Dodd, and S. W. Felce, Royal Dental; S. C. Gilby, Birmingham; H. A. Ginn and E. M. Greenwood, Guy's; H. L. Hill, Royal Dental; F. S. Hobbs, Guy's; A. Jackson, Royal Dental; N. A. James, Univ. Coll.; E. N. F. Jenkins, Royal Dental; H. H. Kenshole, Guy's; Margaret C. Lauder, Royal Dental; L. L. Lester and W. W. Levy, Guy's; J. Luke, Royal Dental; K. Malik, London; A. G. Mockridge, Royal Dental; M. J. O'Donnell and C. J. O'Donoghue, Guy's; H. Peake, Manchester; W. J. Preston, Royal Dental; R. F. Prichard and J. R. Prior, Guy's; K. P. Ramsay, Pennsylvania and Royal Dental; E. B. S. Redman; R. S. T. Sandberg, J. H. Sedgman, and A. F. D. Shapland, Royal Dental; S. Sharp, Guy's; J. N. Staton, Royal Dental; K. D. Sutcliffe, Leeds; E. J. Taylor, Royal Dental; D. A. Thomas, Guy's; A. Topping, Liverpool; R. T. Towne and P. R. Walter, Guy's; and J. R. Williams and R. C. Withers, London.

UNIVERSITY OF BELFAST.—At a graduation ceremony on July 8th the following honorary degrees were conferred :—

LL.D.—Sir Almroth Wright.
D.Sc.—Sir Berkeley Moynihan and Prof. Elliot Smith.

UNIVERSITY OF BIRMINGHAM.—At recent examinations the following candidates were successful :—

FINAL EXAMINATION FOR M.B., CH.B.

W. B. Ballenden, St. Clair H. Baynes, E. L. Butler, H. E. Carmalt, A. S. Esslemont, K. P. Fooks, Helen G. Gifford, F. E. Hampton, S. Hobson, R. L. Jones, Marjorie V. Martin (Distinction in Medicine), Marjorie H. Mills, Margaret Mitchell, Phyllis M. Paddock, Mary E. Percy, S. H. Reeves, A. H. Richardson, V. H. Sarland, Ahmad Sirry, Frances M. Stockdale, Olive F. Sydenham, A. D. Tomlins, and F. Welsh.

FINAL EXAMINATION DIPLOMA IN DENTAL SURGERY.

Old Regulations.—C. T. Morgan and A. H. Bosworth.
Revised Regulations.—S. L. Barnacle, W. H. Brown, W. L. Eccleston, Bertha H. Johnson, R. E. Morgan, Gerald Simons, and A. T. Wynne.

UNIVERSITY OF EDINBURGH.—At a graduation ceremonial held on July 14th the following degrees were conferred :—

M.D.—‡ Harriette G. Bogle, ‡ Gladys H. Dodds, * John Gray, F. S. Harper, * R. G. Inkster, † G. M. Lamb, * C. G. Lambie, F. W. Lang, † O. J. S. Macdonald, Ella G. F. MacKenzie, Rosanna E. Macmillan, ‡ A. J. Muirhead, ‡ J. R. K. Paterson, ‡ Elsie Porter, G. W. Simpson, and J. A. B. Young.

* Awarded gold medal for thesis.
† Highly commended for thesis.
‡ Commended for thesis.

Ph.D.—G. H. Percival.
M.B., Ch.B.—J. P. S. Bannerman, Norman Baxter, R. L. Beveridge, W. K. Blackie, § J. D. Bottomley, Julius Brown, T. G. Brown, J. A. Bruce, W. N. Campbell, L. G. Carmichael, D. C. Chopra, W. F. H. Coulthard, E. C. Davies, J. B. Dedman, A. W. Dunn, G. H. Duthie, A. C. Edwards, J. C. S. Edwards, Hannah M. M. Elder, Gilmour Erskine, I. B. Ewart, I. J. Freedman, Mavis E. Furst, G. W. Gale, C. O. Gange, H. P. S. Gillette, A. L. Goldberg, E. W. Graham, S. H. Graham, H. B. Gray, G. A. H. Gumley, O. K. G. Guyer, A. P. Harris, R. M. Hill, Dorothy Hunter, § J. R. Innes, W. M. Innes, § A. S. Johnstone, H. D. G. Jones, Bhagwan Das Khurana, A. L. Knipe, S. Kramer, D. G. L. Lackie, A. A. Learmont, G. A. Lee, M. E. Lemin, Mary L. Liston, Isabella M. B. Livingstone, J. W. Lusk, K. S. Macdonald-Smith, I. Bruce-Kerr MacGregor, R. M. M'Gregor, R. S. MacHardy, D. W. D. MacLaren, § Wilhelmina M. G. MacLennan, I. M. Macleod, § J. M'Michael, § A. A. MacNair, D. R. Maitland, R. S. Manson, Edith M. Martin, T. R. Matson, H. Mercer-Rickets, Brian de la Harpe Meyer, T. C. Mitchell, W. J. Mowat, C. E. Munro, Pauline V. Murray, Diwan Pitamber Nath, H. J. Nicholson, N. J. Nicholson J. H. Nicolson W. J. Officer, Beatrice M'P. Ogilvie, Katharine M. Ogilvie-Mullan, J. D. W. Pearce, W. R. Playfair, G. L. Reid, Hannah M. Reid, § T. M. Reid, § W. A. Robb, J. E. Robson, B. Rogoff, A. W. Rose, Jessie I. Rosie, W. A. R. Ross, R. Sampson, P. N. Seager, H. M. Shenkin, Aga Mohamed Hadi Shirazi, Frances E. Smith, Georgina M. Somerville, Kok Ho Teik, D. Tennant, T. P. Thomas, Margaret Venters, E. A. Watson, J. Weinstein, L. Whitten, B. Williams, C. H. Wilson, Marion R. Wilson, G. M. M. Wright, Cecilia E. L. Wyllie, G. M. Yates, A. L. Young, J. H. Young.

§ Passed with honours.

Diploma in Tropical Medicine and Hygiene.—Syed Abdur Rahman.
Diploma in Radiology.—Ruth M. C. Barclay, T. Brewis, B. T. Halliwell, and J. B. King.

The Cameron Prize in Practical Therapeutics was awarded to Dr. F. G. Banting, Professor of Medical Research in the University of Toronto, for his contributions to physiology and medicine, relating to insulin. Other prizes and distinctions were awarded as follows :—Straits Settlements Gold Medal : Dr. G. Buchanan. Ellis Prize in Physiology : M. H. Finkelstein. Gunning Victoria Jubilee Prize in Anatomy : Dr. D. Mainland. Gunning Victoria Jubilee Prize in Medicine : Dr. R. V. Christie. Lauder Brunton Prize in Pharmacology and Therapeutics : Dr. G. H. Percival. Ettles Scholarship and Leslie Gold Medal : Dr. J. M'Michael. Allan Fellowship in Clinical Medicine and Clinical Surgery : Dr. J. M'Michael. The Murchison Memorial Scholarship in Clinical Medicine : Dr. J. M'Michael. M'Cosh Graduate's and Medical Bursaries : Dr. W. A. Robb. The Mouat Scholarship in the Practice of Physic : Dr. J. D. Bottomley. Buchanan Scholarship in Gynæcology : Dr. D. G. L. Lackie. James Scott Scholarship in Midwifery : Dr. Wilhelmina M. G. MacLennan. Beaney Prize in Anatomy and Surgery : Dr. J. D. Bottomley. Conan Doyle Prize : Dr. G. W. Gale. Annandale Gold Medal in Clinical Surgery : Dr. T. M. Reid. Murdoch Brown Silver Medal in Clinical Medicine : Dr.. J. M'Michael. Royal Victoria Hospital Tuberculosis Trust Gold Medal : K. S. Macdonald-Smith. Scottish Association for Medical Education of Women Prize : Dr. W. M. G. MacLennan. Dorothy Gilfillan Memorial Prize : Dr. W. M. G. MacLennan. Pattison Prize in Clinical Surgery : Dr. John M'Michael. Prox. acc., Dr. W. K. Blackie. Wightman Prize in Clinical Medicine : I. Aird. Wellcome Medals and Prizes in the History of Medicine : Gold Medal, Dr. J. D. A. Gray; Silver Medal, Dr. G. W. Gale. Cunningham Memorial Medal and Prize in Anatomy : A. C. P. Campbell. Whiteside Bruce Bursary : Thomas H. Brown.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At recent examinations the following candidates passed the Final Examination for the Diploma of L.D.S. :—

Donald Wilcock, John Stobo-Nancer, Alfred William Hendry, Stanley Leonard Cramer, Betty Cossar Hamilton, Charles Alexander Johnston, Alexander Stuart Roberts, Thomas David Hume Millar, Robert Wilson, James Rankin Wishart, David Dunnet, and Barryhill Moore.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—A quarterly meeting of the College was held on July 12th, the President, Prof. G. M. Robertson, in the chair. Dr. Alfred Irving Shepheard-Walwyn (Carlisle) and Dr. Walter Duncanson Chambers (Perth) were introduced and took their seats as Fellows of the College. Dr. Robert Victor Morrison (Rangoon), Dr. William Macrae Taylor (Edinburgh), Dr. Douglas James Ackworth Kerr (Edinburgh), Dr. William Alister Alexander (Edinburgh), and Dr. Thomas Robert Rushton Todd (Edinburgh) were elected Fellows.

HOUSING AND TOWN-PLANNING.—The Garden Cities and Town-Planning Association is arranging a tour to Newcastle, Edinburgh, Glasgow, and Carlisle from Sept. 16th to 23rd. Particulars may be had from the Secretary, 3, Gray's Inn-place, London, W.C. 1.

MARIE CELESTE ANNEXE FOR MEN.—Last week Mr. Neville Chamberlain (Minister of Health) opened the Marie Celeste annexe at Reigate for men patients of the London Hospital. Formerly a large private house, the annexe is intended to accommodate 20 patients nearing the convalescent stage. Mr. Chamberlain said that the great advantage of annexe treatment was, taking hospital services as a whole, that it enabled a far greater use to be made of all the available services, so that better value was obtained for their money. The idea of annexes was of national importance. These 20 beds would perhaps mean the saving of thousands of lives in the future, as they would prevent people from having to wait for a bed at the London Hospital until it was too late.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—On Tuesday, July 26th, at 5 P.M., Mr. A. Caddy will give a lecture-demonstration on Glaucoma at the Royal Westminster Ophthalmic Hospital. This lecture-demonstration is free to all members of the medical profession. Two special courses have been arranged by the Fellowship for August—viz., a course in Diseases of Infants at the Infants Hospital under the direction of Dr. Eric Pritchard, from August 8th to 21st, from 2 P.M., daily, and a course in Medicine, Surgery, and the Specialties from August 29th to Sept. 10th at the Queen Mary's Hospital, Stratford, which will occupy almost the whole day. This hospital has a good pathological department and excellent maternity wards. Apart from these special courses, the Fellowship provides a general course of instruction at the associated hospitals. A comprehensive ticket is issued for any period from one week to one year and the holder is free to make up his own time-table. Copies of all syllabuses are obtainable from the Secretary of the Fellowship at 1, Wimpole-street, W. 1, from whom the *Post-Graduate Medical Journal* may be had at 6*s.* per annum post free.

MEDICAL INSURANCE AGENCY.—The Chairman's report for the year 1926, presented at a recent meeting of the Agency, showed a steady progress. The year was a record one in life assurances. The Agency received in 1926, on behalf of various recommended companies, 237 proposals to secure sums assured of over £200,000. Of these 202 (£172,916) proposals were completed in the year, whilst 23 (£23,700) were declined, deferred, or were not taken up by the proposers, and 12 (£12,263) were transferred to 1927. Apart from ordinary life and endowment assurances, the Agency has arranged many contracts for the benefit of children for educational purposes and for protection in later life. The doctors' special policy for the insurance of motor-cars also showed a considerable increase in the number of new contracts negotiated. The demand for the services of the consulting engineers continues to grow, and more frequent use is being made of their services in connexion with the purchase, hire, and repair of cars and also as arbitrators. The scheme whereby medical practitioners may obtain financial assistance in the purchase of partnerships or practices is now nearing the end of the experimental period, and with the cordial coöperation of insurance experts will soon be a recognised form of business. Grants to the amount of £1911 5*s.* were made to medical charities during 1926, the total distributions to the end of that year being £16,306, divided as follows : Royal Medical Benevolent Fund, £4749 ; Royal Medical Benevolent Fund Guild, £4673 ; Epsom College, £3628 ; educational grants (girls), £1147 ; sundry charities, £2108. The committee of management resolved to make the following further distributions : R.M.B.F. and R.M.B.F. Guild, to each £525 ; Epsom College Benevolent Fund, £210 ; B.M.A. Charities Fund, £125.

DUNDEE HOSPITAL.—Dundee Royal Infirmary has received a gift of £28,000 towards the endowment of a maternity hospital.

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND.—This association invites applications for a surgical scholarship of the value of £350 for one year. Particulars will be found in our advertisement columns.

PRESENTATION TO A MEDICAL MAN.—Dr. G. J. B. Candler-Hope, chairman of the North Riding Panel Committee since 1913, has been presented with a cheque for £100 and a gold cigarette case by the medical practitioners of the North Riding of Yorkshire.

Dr. R. King Brown, medical officer of health for Bermondsey, has been appointed medical editor of the *British Journal of Actinotherapy*. Dr. Brown is chairman of the Executive Committee of the Institute of Hygiene.

PLAGUE-INFECTED RATS.—It is stated that two grain ships recently arrived in London from the Argentine have been found to harbour rats infected with plague. Appropriate measures have been taken by the port sanitary authorities.

LEGACY FOR MEDICAL RESEARCH.—Mr. William Henry Travis, of Christchurch, New Zealand, has left the whole of his estate, valued at about £40,000, for the assistance of individuals capable of scientifically investigating the causes and cure of cancer and consumption.

IN an annotation appearing in THE LANCET of July 9th and noting the attendance of the medical profession at the 1300th anniversary of the consecration of York Minster, we omitted to mention that the Royal College of Physicians of London was represented at the function by Dr. A. G. Barrs.

KING FUAD AT ROYAL FREE HOSPITAL.—King Fuad visited the Royal Free Hospital during his recent visit to England and presented £400 for the endowment of a bed, which will bear his name. Six Egyptian women are studying medicine at the hospital with the object of developing maternity and child welfare work in their own country.

GIFTS FOR PLAYING FIELDS.—The National Playing Fields Association has announced a gift of £10,000 from the trustees of the London Parochial Charities. It will be payable in amounts of £2000 spread over five years, and is specially allocated to the London and greater London area. A cheque for £10,000 has been sent by the London Stock Fund.

MEMORIAL TO DR. STEWART HUTCHINSON.—The organisers of the memorial to the late Dr. Stewart Hutchinson of Hove have given £105 to the Royal Alexandra Hospital for Sick Children, Dyke-road, Brighton, to endow a cot during the lifetime of Mrs. Hutchinson. The balance of the fund—£41 8*s*. 6*d*.—has been forwarded to the same institution for the operating theatre fund in the hope that a tablet may be placed in the theatre.

THE LATE DR. A. BRUCE LOW.—Dr. Alexander Bruce Low, who recently died at Norwood, was born at Edinburgh in 1856, and was educated at the universities of Edinburgh and Vienna. He graduated in medicine in 1878, proceeding to the M.D. degree in 1881; three years later he became a Member of the Royal College of Physicians of Edinburgh, and in 1897 he was elected a Fellow. Soon after qualifying he was appointed house surgeon to the Sunderland Royal Infirmary, and from 1886 to 1914 was honorary physician to this institution, becoming consulting physician in 1918. He also joined the honorary staff of other hospitals in the neighbourhood. Dr. Low spent the last few years of his life in Finchley and Norwood, and his son, Dr. Herbert Bruce Low, took over the practice at Sunderland.

SCROTAL CANCER.—"Death from epithelioma caused through contact with tar" was the finding of a Manchester jury at an inquest on June 29th. The deceased had worked at the corporation gasworks for about 25 years and had had three operations for his disease. The coroner, Mr. C. W. W. Surridge, stated that it was a pity that men who were subject to cancer on the scrotum did not voluntarily submit themselves to periodical examination. Taken in time the disease was curable. Dr. S. A. Henry informed the coroner of one firm whose employees submitted themselves at varying intervals to medical examination at the firm's expense. Mr. Ryecroft said that the manager at the Manchester Corporation gasworks had given lectures to the workmen and warned them of the danger of going to the lavatory without first washing their hands. Unfortunately the men strongly resented the idea of medical examination, and until the legislature stepped in he was afraid that little progress would be made.

ENLARGEMENT OF SAVERNAKE HOSPITAL.—The opening of the extension to Savernake Hospital was performed recently by the Marchioness of Ailesbury. The main buildings are due south of the older portions of the hospital, and consist of two wings and a single open corridor. An unusual feature is the use of shop blinds along the south side of each wing, so that patients can be wheeled direct into the air from the wards under cover. A roof garden is provided on each wing.

CIVIL LIST PENSIONS.—The list of pensions granted under the Civil List Act (1910) in the year ended March 31st, 1927, has just been issued and contains the following names: Mrs. Colette Anne Marguerite Inman, in recognition of the contributions made by her husband, Arthur Conyers Inman, M.B., to the pathology of tuberculosis, £75. Dr. George Alexander Pirie, in recognition of his self-sacrificing and devoted services to the application of radiology to medicine, £75. Mr. George Chisholm Waldemar Williams, F.R.C.S., in recognition of his self-sacrificing and devoted services in the routine application of Rontgen rays to the treatment of disease, £50.

THE LATE DR. C. K. SCALES.—At the age of 32, Dr. Cedric Kennedy Scales died at Margate on July 6th. The son of a Dorking solicitor, he was educated at Epsom College and King's College Hospital. On the outbreak of war, whilst still a student, he entered the Navy as surgeon-probationer, and after taking the degree of M.B. Lond. in 1918 he left the service with the rank of surgeon-lieutenant. Following house appointments at King's College Hospital he settled in practice at Margate in partnership with Dr. J. J. Suckling, whose sister-in-law he married. A year or two ago, after a period of further hospital study, he took up a practice in Putney, but since last January illness had prevented him from continuing the work save for short periods.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY, July 25th.—9 P.M., COMBINED MEETING OF THE SECTION OF NEUROLOGY WITH THE AMERICAN NEUROLOGICAL ASSOCIATION. Reception by Sir James Berry (President of the Society) and Lady Berry. At 9.30 P.M. a lecture will be delivered by Sir James Purves-Stewart (President of the Section of Neurology) on Mount Athos, a Survival of the Middle Ages. Fellows of the Society are cordially invited to be present at this reception.

TUESDAY.—9.30 A.M., Short Papers. 2 P.M., Short Papers.

WEDNESDAY.—9.30 A.M., Discussion on The Cerebellum. To be introduced by Dr. F. Tilney, Dr. H. A. Riley, Dr. L. J. Pollock, Dr. L. E. Davis, Dr. A. J. Mussen, Dr. T. H. Weisenburg, and Prof. Harvey Cushing. 2.30 P.M., Clinical Meeting.

THURSDAY.—9.30 A.M., Discussion on Sensory Disorders in Organic Disease of the Nervous System. To be introduced by Prof. J. S. B. Stopford, Dr. Wilfred Harris, Dr. Gordon Holmes, and Dr. S. A. Kinnier Wilson. 2 P.M., Short papers and demonstrations on pathological subjects. 5 P.M., Hughlings Jackson Lecture by Dr. Charles L. Dana. 8 P.M., Banquet (for Members of the Section and their guests).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE and POST-GRUADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, July 25th to SATURDAY, July 30th.—FELLOWSHIP OF MEDICINE LECTURE-DEMONSTRATION. Tues., at 5 P.M., Mr. A. Caddy on Glaucoma at the Royal Westminster Ophthalmic Hospital, Charing Cross, W.C. Open to all members of the medical profession without fee. WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck-street, W. Lecture-demonstrations, daily at 5 P.M. Last week of course.

NORTH-EAST LONDON POST-GRADUATE COLLEGE. Prince of Wales's General Hospital, Tottenham, N.

MONDAY, July 25th.—2.30 P.M. to 5 P.M., Medical, Surgical, and Gynæcological Clinics. Operations.

TUESDAY.—2.30 P.M. to 5 P.M., Medical, Surgical, Throat, Nose, and Ear Clinics. Operations.

WEDNESDAY.—2.30 P.M. to 5 P.M., Medical, Skin, and Eye Clinics. Operations.

THURSDAY.—11.30 A.M., Dental Clinic. 2.30 P.M. to 5 P.M., Medical, Surgical, and Ear, Nose, and Throat Clinics. Operations.

FRIDAY.—10.30 A.M., Throat, Nose, and Ear Clinics. 2.30 P.M. to 5 P.M., Surgical, Medical, and Children's Diseases Clinics. Operations.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.

MONDAY, July 25th.—10 A.M., Mr. Macdonald: Genito-Urinary Operations. 11 A.M., Mr. Tyrrell Gray: Surgical Wards. 2 P.M., Dr. Scott Pinchin: Medical Out-patients.

TUESDAY.—10 A.M., Medical Registrar: Medical Wards. 2 P.M., Mr. Addison: Operations. 2 P.M., Mr. Sinclair: Surgical Out-patients.

WEDNESDAY.—10.30 A.M., Dr. Burnford: Medical Wards. 2.30 P.M., Mr. Donald Armour: Surgical Wards. 2 P.M., Dr. Scott Pinchin: Medical Out-patients.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Dept. 2 P.M., Mr. Simmonds: Surgical Out-patients. 2 P.M., Mr. Bishop Harman: Eye Dept.
FRIDAY.—10 A.M., Sir Henry Simson: Gynæcological Operations. 10.30 A.M., Dr. Downing: Skin Dept. 2 P.M., Mr. Vlasto: Throat, Nose, and Ear Dept.
Operations, Medical and Surgical Out-patients, Special Departments, daily, 10 A.M. to 5 P.M. Saturdays, 10 A.M. to 1 P.M.

ROYAL NORTHERN HOSPITAL, Holloway-road, N.
TUESDAY, July 26th.—3.15 P.M., Mr. G. G. Penman: Iritis.

Appointments.

BOOTH, W. G., M.B., B.S. Lond., D.P.H., has been appointed Assistant Medical Officer of Health, Finsbury.
CLAUSEN, R. J., M.B., B.S. Lond., Anæsthetist, Charing Cross Hospital.
WILKINSON K. DOUGLAS, O.B.E., M.D. Birm., M.R.C.P. Lond., Cardiologist to the Birmingham City Fever Hospitals.

Vacancies.

For further information refer to the advertisement columns.

Alton, Hants, Lord Mayor Treloar Cripples' Hospital.—Asst. Res. M.O.
Association of Surgeons of Great Britain and Ireland, 51, Wimpole-street, W.—Surgical Scholarship. £350.
Beckenham Urban District Council.—M.O.H. and School M.O. £900.
Bolingbroke Hospital, Wandsworth Common, S.W.—H.S. At rate of £120.
Bristol Royal Hospital for Sick Children and Women.—H.S. £125.
Charing Cross Hospital, W.C.—Res. M.O. £400.
Colchester, Essex County Hospital.—H.S. £150–£200.
Doncaster Royal Infirmary and Dispensary.—Third H.S. At rate of £150.
Fiji Government.—Dist. M.O. £500.
Hertford County Hospital.—H.S. At rate of £150.
Hull Royal Infirmary.—Cas. H.S. At rate of £150.
Liverpool, Smithdown-road Institution.—Res. Asst. M.O. £200.
Manchester, Ancoats Hospital.—Res. Surg. O. £200.
Northamptonshire County Council.—Tuberculosis O. £750.
Plymouth, Homœopathic and General Hospital.—H.S. At rate of £100.
Rochford Union.—Dist. M.O. and Public Vaccinator. £170.
St. Leonards-on-Sea, The Buchanan Hospital.—H.S. £150.
St. Mary's Hospital for Women and Children, Plaistow.—Res. M.O. and Asst. Res. M.O. £175 and £130.
St. Pancras Parish, Dists. 5, 6, and 7.—Public Vaccinator.
Samaritan Free Hospital for Women.—H.S. At rate of £100.
Scottish Board of Health.—Dist. M.O. £1000.
Sheffield Royal Hospital.—Res. Surg. O. £200.
Southampton Parish Infirmary.—Third Asst. Res. M.O. £275.
Southampton, Royal South Hants and Southampton Hospital.—Sen. H.S. £200.
Staffordshire County Council, County Laboratory, Lichfield.—Bacteriologist (Locum Tenens). £10 10s. weekly.
Swansea Hospital.—H.S. £150.
Worcester County and City Mental Hospital, Powick.—Jun. Asst. M.O. £300.
Worcester General Infirmary.—Sen. and Jun. Res. M.O.'s. £180 and £120 respectively.

The Chief Inspector of Factories announces the following vacant appointments for Certifying Factory Surgeons: Roade (Northampton), Okehampton (Devon), Ludlow (Salop), Tunbridge Wells, (Kent), Liverpool (Garston), and Lancaster, Kilbirnie (Ayr).

Births, Marriages, and Deaths.

BIRTHS.

CHANDLER.—On July 13th, 1927, at 1, Park-square West, Portland-place, W.1, to Marjorie, wife of F. G. Chandler, M.D., F.R.C.P.—a daughter.
GLEN.—On July 8th, at Acton, W., the wife of Archibald Glen, L.R.C.P., M.R.C.S., of a daughter.
HOLDEN.—On July 17th, 1927, at Byron House, Aylesbury, Jean, the wife of Sandys J. C. Holden, M.B., D.P.H., of a daughter.

MARRIAGES.

DOWNING—PEGG.—On July 12th, at St. Peter's, Oadby, Frederick John Downing, L.D.S. R.C.S. Eng., to Violet Constance, daughter of Mr. and Mrs. S. H. Pegg, of Leicester.

DEATHS.

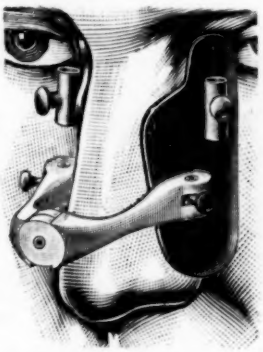
LOW.—On July 12th, suddenly, at Kewferry-road, Northwood, Middlesex, Alexander Bruce Low, M.D., F.R.C.P. Edin., aged 70.
MACKAY.—On July 14th, at Heathmount, Tain, William Alexander Mackay, M.D., F.R.C.S. Edin., of Huelva, Spain.
NIXON.—On July 15th, 1927, after an operation, Horace Clulow Nixon, M.D., of Queen's-parade, Bath.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Comments, and Abstracts.

DIATHERMY FOR THE COMMON COLD.

IN *Paris Médical* for June 11th Dr. H. Bordier, of Lyons, describes a method of treating acute coryza by diathermy. The proposal was first made, he says, by Dr. Tsinoukas, of Athens, and the treatment aims at producing heat in the nasal fossæ sufficient to stop the excessive secretion of the mucous glands. Dr. Tsinoukas made use of two large Hegar's dilators (No. 26), applying them to the skin on each side of the nose. He claimed that even with a small current (200–300 milliampères) the most acute coryza could be stopped almost at once, so that after about 25 minutes the patient was cured; he could breathe freely, he ceased to sneeze, there was no discharge from the nose, and little by little any pain in the frontal sinuses disappeared. The best results were obtained if diathermy was used at the very beginning of the cold.



Dr. Bordier records the same success, but sought to devise more convenient apparatus. For the Hegar's dilators he first substituted spoon-shaped electrodes fixed to insulating handles; the patient comfortably seated in an armchair, held these handles for himself and applied them to the nasofacial angle. He now uses a nasal bipolar electrode (made by Mr. Lépine, place des Terreaux, Lyon), an illustration of which we reproduce by courtesy of the publishers of *Paris Médical*, Messrs. J. B. Baillière et Fils, Paris. It consists of two metal plates, 1 mm. in thickness, fixed to the arms of a V made of an insulating substance, a joint at the base permitting adjustment of the plates to any nose. A terminal on each plate receives the electric wire, which should be supple and light. Lastly, an elastic band round the head immobilises the apparatus once it is in place. The advantage of Dr. Bordier's model is that it can be used without the patient's active help. The amount of current is increased until the patient remarks a sharp sensation of heat within the nose. It is to be noted, Dr. Bordier says, that if the coryza is confined to one side of the nose, that is the side on which most heat will be felt, a fact which is explained by the higher tension of the current in the region of the diseased mucosa, following more abundant secretion from it. As the application continues with this amount of current, the sensation of heat becomes more and more painful, and current has to be diminished. Cure of the coryza is indicated when the patient finds it difficult to bear the treatment. Afterwards, Dr. Bordier states, the transformation is complete, and no symptom of the cold remains, except a nasal intonation of the voice, persisting for a few hours, and due to congestion of the nasal fossæ. In most cases a single sitting is enough to cure the cold, but the result is better and more complete if the patient submits to two or three.

If Dr. Bordier's experience should prove general, and if the treatment is not too painful, the method ought to become popular. But it is doubtful to what extent the good effects of the current can reach the posterior nares where in most cases the infection chiefly lies.

THE MEDICAL KING'S PRIZEMAN.

WITH 292 points out of a possible 300, Captain C. H. Vernon, late R.A.M.C., won the King's Cup at Bisley on Saturday last. It will be remembered that last year Dr. F. H. Kelly tied for first place, so that for the second year in succession the Prize goes to a member of the medical profession. Dr. Vernon is a Hampshire man and represented Oundle School (1910) and Cambridge University (1913–14) at Bisley. He served during the late war first in India and Mesopotamia as a combatant officer and later in the Royal Air Force Medical Service and the Royal Army Medical Corps. He graduated as M.B. at Cambridge in 1918 and became F.R.C.S. Edin. two years later. After resident appointments at St. Thomas's Hospital he settled in practice at Boscombe, and is now assistant surgeon and assistant obstetrician to the Royal Victoria and West Hants Hospital.

THE MENACE OF MENTAL DEFICIENCY.

THE Scottish Women Citizens' Associations are autonomous bodies which interest themselves in social reform of all kinds. The question of the permanent care of the feeble-minded has been prominent in their conferences for each of the last five years, and in 1924 they resolved to raise money for an industrial and farm colony. They were successful in arousing national interest and in collecting £12,000, and wisely handed this sum over to the Royal Scottish Institution at Larbert, the directors of which agreed to carry out the general policy of the associations. This is not the only practical step that these admirable bodies have achieved, for they have also done a great deal of sound propaganda work all over Scotland. In order to give the problem a more precise intellectual form, the Edinburgh Association have started a study circle at which many lectures have been delivered by experts in the care of the mentally defective. Seven of these lectures have been published by the Scottish Council of the associations, under the title of "The Menace of Mental Deficiency" (46, Great King-street, Edinburgh, 6*d*.), and it would be impossible to wish for a clearer and more accurate statement of the position from the scientific point of view. Dr. W. M. M'Alister writes on the distinction between deficiency and derangement and on sterilisation, Dr. R. D. Clarkson and Dr. F. A. E. Crew on heredity, Dr. Charles McNeil on the endocrine glands, Dr. C. G. A. Chislett on institutional treatment, and Dr. G. H. Henderson on the political and economic aspects of mental deficiency. The booklet therefore contains an all-round survey by a body of first-class authorities. It is clear that Scotland, thanks to the public spirit and energy of its women citizens, is facing the menace of mental deficiency.

"DERATISATION."

THE Manchester Port Sanitary Authority has officially adopted a word which has hitherto been a useful colloquialism in anti-plague work. A ship may be granted a certificate of "deratisation," when it is entirely free from rats—black rats, grey rats, brown rats—infected or uninfected with plague. The annual report states that 2344 rats were destroyed in the ships entering the port and 2656 about the dock premises, of the former 632 were in ships from plague-infected places.

GOAT KEEPING.

THE object of the British Goat Society is to encourage the keeping of goats, and the Year Book of the Society for 1927 contains a large amount of information for the general public, and useful to goat-keepers in particular. We learn that for the year ending October, 1926, British goats produced some 36,000 gallons of milk, a small quantity in view of the utility of such milk and of its comparative freedom from tubercle. Dr. G. H. T. Stovin contributes an article on the digestive organs of the goat, Mr. H. Stainton, F.R.C.V.S., discusses the benefits of light in the rearing of goats, and Dr. Anna L. Church describes "Some Goats I Have Known." Among other articles may be mentioned the future of goats' milk as pure food, the economies of goat keeping for poultry farming, the indirect profits from goat keeping, and an interesting account of "Shipwrecked Goats" in which Robinson Crusoe and Masterman Ready are not forgotten. The quality of goats in this country is steadily improving, largely owing to the lectures given under the auspices of the Ministry of Agriculture. The address of the Society is 10, Lloyd's-avenue, London, E.C. 3, where the Year Book can be obtained for the sum of 1*s*. 6*d*.

AN INDIAN DENTAL JOURNAL.

THE *Indian Dental Review*, of which the first number has just appeared from Karachi, is only the second dental journal to be produced in India, and has considerable significance as showing the development of dental science in that country. The absence of any organised system of dental education and of a Dentists' Register has heavily handicapped the development of dentistry in India, since proper training has only been possible for a small number of Indians who are able to go abroad for it. We are glad to note that the new *Review* lays stress on the need for an Indian Dental Association. It is inevitable that a journal serving such a country should depend largely on foreign contributions which have appeared elsewhere, but we trust it will not neglect the enormous field for investigation lying at its door. India, with its many races, living under different conditions, offers a peculiarly valuable field for investigating the natural history of dental disease. An inquiry into the incidence of caries and pyorrhœa and the dietetic and other factors which may play a part in predisposing or in conferring immunity to them would be of the utmost value, and might shed light on many perplexing problems. Here is an opportunity for the *Indian Dental Review*, and we hope it may be seized.

A LABORATORY ROBOT.

ALL laboratory workers who find themselves called upon to deal with large numbers of slides requiring to be stained in some one particular, develop some sort of wholesale technique of their own, but most of them must have wished for a machine which would pass the slides throughout the various steps without constant supervision. An apparatus to meet this need is now upon the market. The Sinclair Mills Auto-Immerser, once charged with slides, will carry them through all the stages of staining, rinsing, and draining, delivering them all ready for examination under the microscope. By various simple adjustments this apparatus can now be made to deal with slides to be stained either by the Gram, Ziehl-Nielsen, or Leishman techniques; for most other stains in ordinary use the further necessary adjustments could undoubtedly be devised. This apparatus should prove convenient to laboratory workers under the necessity of dealing with routine slides in large numbers. Particulars may be obtained from R. M. Catterson-Smith, Laclandplace, King's-road, Chelsea, London, S.W. 10.

THE LEPROSARIUM AT MAKOGAI.

MAKOGAI is an island north-east of Fiji, with an agreeable climate, set apart for the lepers of the Fiji Archipelago. Segregation is compulsory after certification by two European doctors, and cases may not leave the island until all clinical and bacteriological signs have been negative for two years. Hitherto both certification and transport have involved considerable delay, but the Government has now built a special vessel for leper transport only and Makogai is likely to become the leper station for the whole Southern Pacific. There are five villages, each belonging to a different nationality and governed by its own headman. The sexes are kept separate and there is a hospital for women, the helpless, and the sick. All who are fit are expected to work and to take their share in keeping the home and village clean and tidy. They have their own coöperative store. The staff consists of a medical and a lay superintendent, 12 European and eight native sisters, and an overseer. The European sisters pay daily visits to the villages and do minor dressings. The hospital is on the detached building system and has bathrooms, operating room, laboratory, and dispensary. Dr. F. Hall, who was medical superintendent of this institution from 1911 to 1920, in a little booklet describing its work, writes that the prognosis is very hopeful for those who are treated early; the trouble is to get the native to report in time. Only 6 of the 444 cases discharged have had to be readmitted. The booklet is illustrated by a number of excellent photographs.

SMALL-POX AND VACCINATION.

Dr. W. McConnel Wanklyn has devoted his life to the study of small-pox, and his pamphlet on "The Accurate Diagnosis of Small-pox" (Ash and Co., Ltd., 6*d*.) has now reached a third edition. He has given numerous addresses and lectures on the subject since 1914 and he has recently brought out a revised model popular lecture entitled "To Whom it May Concern" (The Voluntary Service Fund, 36, Friday-street, E.C. 4, 1*s*. 6*d*.). In this he is at some pains to emphasise the serious nature of small-pox in the unvaccinated and his telling stories cannot fail to move an intelligent audience. One of the greatest dangers at the present time, as he points out, is that the public is getting the habit of under-estimating the enemy owing to its mild aspect. There are, he says, 30,000,000 people susceptible to small-pox in this country and exposed to the constant danger of infection from the disease as it reaches us from overseas. The intelligent audience can hardly fail to believe in the value of vaccination as a protective measure if performed in time, but after listening to Dr. Wanklyn's address it will almost certainly ask certain questions to which he has given no answer. First, is infantile vaccination absolutely necessary? Could not compulsory vaccination (without exemption) be carried out at school age, say, once on entering and again on leaving? Is it desirable to introduce what is popularly described as "poisonous material" into young infants under a month old? The author says on page 33, "the whole country is solid as to the value of vaccination in emergencies." Would not the postponement of infantile vaccination remove nearly all the objections to the practice? These are questions which intelligent men and women are constantly asking, and Dr. Wanklyn has, of course, got satisfactory answers to give. Why are his educative efforts concerned solely with preaching on a subject on which the "whole country is solid"? Would it not be better to deal with the situation as it exists in places where it is becoming the exception for babies to be vaccinated? Dr. Wanklyn writes well; his pamphlet is arresting in its clarity and manner of presentation, but it leaves the feeling that some of the main difficulties have been left untouched.